REPEATER JOURNAL

CAROLINAS - VIRGINIA REPEATER ASSN. INC

NOVEMBER 1978 VOLUME 7, No. 4

Organized 1971

- UPDATED REPEATER INDEX N.C., S.C., VA., TENN., W. VA.
- DIRECTOR-VICE DIRECTOR ELECTIONS UNDERWAY

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REPEATER JOURNAL

CAROLINAS - VIRGINIA REPEATER ASSN. INC

NOVEMBER 1978 "IN OUR 7th YEAR" VOLUME 7, No. 4

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ON THE COVER

Al Ross, new Freq. Coord. gets the works as he takes command. See Cover Story this issue of Journal.

(Journal Cover Photo Ctsy, Bill Parris, AA4R)

EDITORIAL COMMENT

KERCHUNKERS AND THE INTERFERENCE BIT . . .

If you own a repeater, you're going to fall into the trap that so many others have. When a "kerchunker" or some mischievious soul starts making your machine go up and down, there is going to be some "self-appointed" policeman who will get on the air in an authoritative voice and demand, "the station on frequency, please identify yourself."

I always thought it would be cute for about 15 or 20 individuals to come on the repeater and identify for him.

Whenever we have a problem with a repeater keying up, or a key down for a period of time, many owners and users immediately begin to proclaim "purposeful interference". They rant and rave about someone maliciously interfering with their sacred machine. The matter of fact is that 95% of the supposedly malicious acts of key down on repeaters generally turn out to be

Continued on Page 12

SOME KIND REFLECTIONS . . .

When you sit back and reflect the past year, the CVRA has done quite well. Mind you we don't want to gloat, but perhaps toss a few roses to each of you who played a part in the success.

For instance, an all time record of full memberships, 130 organizations joined in 1978, representing over 160 repeaters in the three states . . . this ain't bad!

In associate memberships, we have finally passed the 2000 mark with over 2,200 associate members, by the first of October. This compares with 1410 last October of 1977, and 916 associate members in Sept. of 1976. In Sept. 1974 we had 293 and Sept. 1975, 504. The associate membership figures show an increase of about 800 members over the last 12 months, 400 of that figure since July 1978. In another light, we lacked only 100 of getting the same amount of new members this past year that the CVRA got from 1971 through 1976.

What has brought about this heavy influx of memberships? You have my friends! Never has there been so much cooperation and coordination with the

Continued on Page 38

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ELECTIONS UNDERWAY

The Nominating committees for selecting nominees for Director and Vice-Director of North Carolina, South Carolina and Virginia have been working since the Shelby Hamfest meeting of the CVRA.

Any additional nominations could be made by any repeater owner by writing the secretary. The nomination has to be accompanied with the signatures of three additional full members names.

If more than one name appears on the ballot for either officer in any State, an election will be held. If the nominee for each office is only one name, the President shall declare them elected, and they will assume duties of the office on Jan. 1, 1979 and serve for a term of 2 years.

SOUTH CAROLINA

Grady Wyatt, WB4OCB, chairman of the S.C. nominating committee reports to the Journal that thev have one nominee each for the office of Director and Vice-Director for South Carolina.

J.N. (JACK) WATSON, JR. W4YPD has been nominated for S.C. Director. Jack is presently President of the Carolina Repeater Society of Columbia. He is very active on the VHF bands and Amateur Radio. He has agreed to serve if elected.

ROBERT B. (BOB) McCORMICK, K4FRX has been nominated Vice-Director. Bob is a previous secretary of clubs. He is very active on SSB nets on 2-meters in the South Carolina area. He also has agreed to accept the job if elected.

NORTH CAROLINA

Ed Buffington, W4VGZ, chairman of the nominating committee from North Carolina reports they are still working on nominations but have come up with two persons for the two offices.

KEN WOODARD, WA4BVW of the Asheville area has been selected as candidate for the office of Director for North Carolina. Ken is owner of the Mt. Pisgah, 16-76 repeater and is well known in most of the State.

ED (BUFF) BUFFINGTON, W4VGZ, of Burlington was selected by the committee as Vice-Director nomination. Ed or as he is known by friends as "Buff" has worked actively in the CVRA for years, although he has never held a formal office. He was also on the North Carolina nominating committee for President and Vice President. Buff is owner of the 475-075 repeater in Burlington, and will serve if elected.

VIRGINIA

The committee for Virginia, chaired by James DeArras, WA4ONG has not as of press time come up with candidates for Director and Vice Director for Virginia. (We regret we were unable to give you more information, and apologize to our CVRA friends in Virginia. We just were unable to get the information in time to go to press with the Journal on time.)

CVRA ANNUAL MEETING

By Charles Durst, WA4WTX
CVRA Cover Story

On September 2, the annual meeting of the CVRA was held at the Governor's Inn in Shelby. Following dinner, a short Board of Directors meeting was held. Then the general membership meeting was held.

Several important matters were decided at the Board meeting. It was decided that, due to increased postage and printing costs, the price of membership would have to be increased to prevent a financial loss on the Journal. The Associate Membership will increase from $2 to $3 annually and the full Repeater Membership will increase from $6 to $8 annually. The membership fees have been $2 and $6 since the founding of the organization as the North Carolina FM Repeater Association in 1971 while the Journal has gone from four mimeographed pages to a fifty page magazine with a circulation of over 3,000 copies. The board felt that the quality of the Journal justified the increase. The new rates will be effective January 1, 1979. New ad rates will become effective on the same date. (See related story this issue).

The other major topic at the board meeting was the interest of Amateurs in Tennessee in affiliating with CVRA. Tennessee has no association such as CVRA. The frequency coordination effort has been organized by O.D. Keaton, WA4GLS, the SCM in Tennessee. Six or seven Amateurs serve as frequency coordinators throughout the state. The feeling of the Board is that any state or group wishing to affiliate with CVRA would have to carry its own weight in membership, Journal input, and Leadership. CVRA is interested in the possibilities of such an affiliation. We look forward to the response from the general Amateur population in Tennessee.

At the general membership meeting, which was well attended, the results of the Board meeting was discussed. At this meeting, Al Ross, K4CAW, took over as Chairman of the Frequency Coordination Committee. Al will be assisted by the Directors and Vice-Directors of the three states.

A nominating committee was appointed in each state to nominate candidates for Director and Vice-Director. Additional nominations can be made by submitting the name of the nominee to the Secretary with the signatures of three repeater representatives by (two weeks after Journal received). Ballots will be mailed to all Repeater Representatives two weeks after the nomination deadline in the states where voting is required. New Directors and Vice-Directors will take office on January 1.

The meeting was adjourned with great expectations for the coming year for CVRA.

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NEW ARRL LEADERSHIP APPOINTMENTS IN NORTH CAROLINA

— By Bill Parris, AA4R

Two key ARRL Leadership Appointment changes made in the last month will bring strong support to repeater operations in North Carolina. Chuck Bino, K4CJZ, of Greensboro, has become the SECTION EMERGENCY COORDINATOR (SEC) replacing Bill Finch, W4EHF. As Emergency Coordinator (EC) of Guilford County for the past four years, Chuck has formed one of the most complete ARES organizations in North Carolina incorporating facilities of the County Office of Civil Prepardness and various law enforcement agencies. The 72/12 repeater, WR4ANP, is the backbone of communications for this ARES unit. K4CJZ will be working with all EC's to formulate operational ARES plans in each county of North Carolina. If you are interested in working with K4CJZ in improving emergency communications in your area write to Chuck at 2401 Deverow Place, Greensboro, NC 27407.

In another key leadership appointment, Herb Lacy, N4UE ,of Cary, has become North Carolina's first SECTION TRAFFIC MANAGER (STM). This is a new appointment and replaces the former PAM and RM jobs. The STM is to traffic as the SEC is to Emergency Prepardness. Herb has the responsibility of working with all traffic nets in the section whether they be phone or CW, HF or VHF. N4UE was the originator of last year's "Murphy to Manteo" test that demonstrated our capability of rapidly passing traffic across the state via VHF repeaters. Herb is pushing strongly the concept of a VHF "Traffic Window" each evening. More about this concept in another article in this issue. If you are interested in traffic nets and traffic handling, get in touch with Herb at 1022 Medlin Drive, Cary, NC 27511.

Emergency prepardness and Traffic Handling are difficult areas of activity to separate . . . for all our traffic handling system and experience is pressed into service during an emergency. Thus Chuck and Herb will be working closely to blend our ARES units and net operations together for effective Amateur Radio coverage and involvement within North Carolina. Let's give them your support, ideas, and cooperation.

I would like to express my appreciation to Bill Finch, W4EHF, who served as SEC for the past three years and did an outstanding job. W4EHF will remain active in NC Emergency Prepardness work serving as an Assistant SEC for the eastern part of the state. As a measure of Bill's efforts, North Carolina is one of 23 US ARRL Sections which has a 100% monthly reporting record thus far in 1978 . . . and we have been 100% for the past three years too. Thanks again Bill.

I would like to express my appreciation to everyone for their support in the recent SECTION COMMUNICATIONS MANAGER (SCM) election. I will pledge to you my time and involvement and I look forward to working with the individuals and groups within North Carolina that represent our fine hobby.

IREDELL COUNTY ARS RECEIVES ARRL CERTIFICATE

On September 14, 1978 the Iredell County Amateur Radio Society was presented a certificate of affiliation with ARRL buy Bill Parris (AA4R), SCM. The society (ICARS) was first formed in October 1976 by a small group including eight licensed amateur operators. Membership is now over forty.

The Society owns and operates the WR4AZS repeater located in Statesville, N.C. (146.085/146. 685). Don (AI40) (formerly K4PAJ) is trustee of the repeater. (Vester Boone, WA4UPH)

CVRA REPEATER MEMBERSHIP

- Bill Page, WB4LWX

As we come to the last issue of the JOURNAL for 1978, we have reached a new high in repeater full memberships. As of October 1, we had 130 repeater organizations signed up as full members. These organizations, own and operate over 160 repeaters in CVRA territory.

The state by state breakdown of full members include: North Carolina 70, South Carolina 25, Virginia-DC 27, Tennessee 3, Georgia 3, and West Virginia 2.

Memberships have come in quite well this year, the best ever.

Again this year, full members of 1978 will be receiving new applications to join for 1979, since ALL full memberships expire on December 31, 1978.

Repeater Full membership dues will raise from $6.00 per year as it has remained since 1971, to $8.00 per year as of January 1, 1979.

Repeater groups who renew their membership prior to Jan. 1, of course can get in on the $6.00 membership price, however any memberships after Jan. 1 will be charged the new $8.00 fee. Two repeater representatives will still receive free subscriptions to the Journal as before.

If you have friends who own repeaters and who have not yet joined the CVRA, why not invite them to join you and your other friends who support this organization.

Don't forget, Join or renew BEFORE JAN. 1 at $6.00, or AFTER JAN. 1, $8.00.

Repeater applications can be obtained from: Bill Page, WB4LWX, Repeater Membership chairman, P.O. Box 871, Kinston, N.C. 28501.

TEKNIKLE TOPIX

By Watson, WB4EXW

Many amateurs have seen the way to stack two antennas or bay four antennas using odd quarter-wavelengths of 75-ohm RG-11 coax. These two configurations are shown in Figures 1A and 1B with the following explanation.

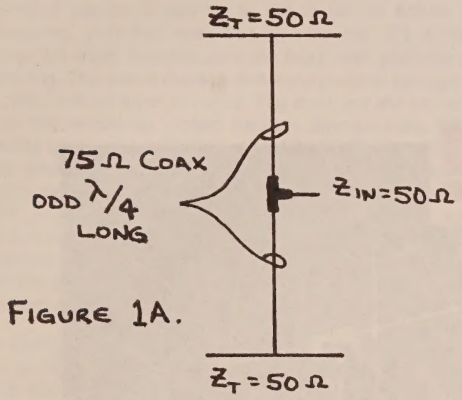


FIGURE 1A.

In Figure 1A we have to transform the 50-ohm impedance of each load (antenna) which we will call ZT up to about 100 ohms so that when we connect the two loads and their coaxial transformers of impedance ZO together (in parallel), we will have an input feed impedance of 50 ohms. We will call this feed impedance ZIN. This can be accomplished by using a length of coax of the correct impedance that is an odd number of quarter-wavelengths long. Using the matching section (Q-section) formula we have

$$Z_0 = \sqrt{Z_{IN}\, Z_T} = \sqrt{50(100)} = 70.7 \text{ ohms}$$

The closest commercially-made coax to this value is RG-11/U. Its 75-ohm impedance is a pretty good match to the 70.7-ohm load. Thus by connecting the antennas to a T-connector with equal lengths of 75-ohm coax that are odd quarter-wavelengths long, our feedpoint impedance is nearly 50 ohms (actually 56.25 ohms).

In Figure 1B we are in effect paralleling two of the units shown in Figure 1A so we are again having to transfer two 50-ohm loads up to about 100 ohms each so that when they are connected in parallel by the center coax-T, the feed impedance is again 50 ohms. This can be accomplished just as in the example shown in Figure 1A. We are equal lengths of 75-ohm coax that are an odd number of quarter-wavelengths long. Remember that the lengths must include the lengths of the installed coax connectors

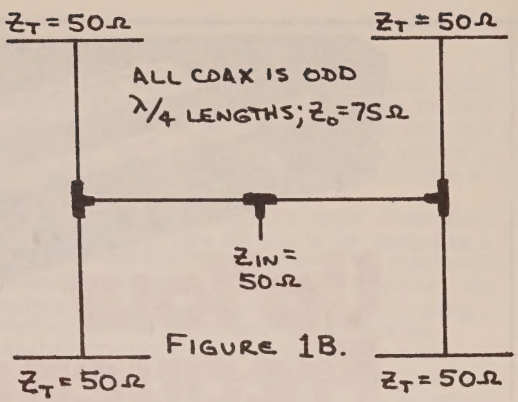


FIGURE 1B.

to be properly matched — a difficult job. These six lengths of coax (for four antennas) along with the fact that one must purchase RG-11U coax are the main disadvantages with this method.

To help simplify this matching problem consider using what is called the Manifold System where all the coax used is a 50-ohm type and only two odd quarter-wavelength sections must be made. It is illustrated in Figure 2 for four 50-ohm antennas only.

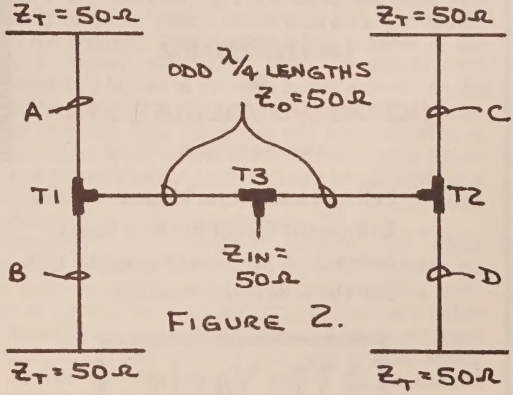
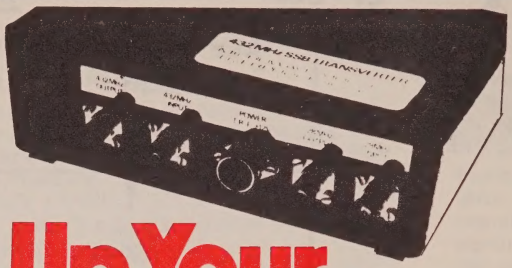


FIGURE 2.

COAX LENGTHS A, B, C, & D MUST BE EQUAL & CAN BE ANY SUITABLE LENGTH.
$Z_0 = 50\,\Omega$

'Connecting two antennas together at the T's labeled T1 and T2 with equal lengths of 50-ohm coax gives us a 25-ohm load on each side of the array. Now we need to transform each of the 25-ohm points up to 100 ohms at the center coax-T (T3) so that

Continued on Page 16



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VHF TROPOSPHERIC PROPAGATION

— By Don Mead K4DE
CVRA Tech. Adv. Committee

While having breakfast, you switched channels on the mini-TV to watch the "Today" show and noticed good reception on a channel you don't ordinarily receive. Fascinated, you wait for a station break and find a Charleston station is coming in like a ton of bricks. In Greensboro, yet! You walk out to your car. It's a nice morning. No wind, surprisingly cool, hazy, with patches of ground fog. The sun is there, but is barely visible through a high, thin, uniform layer of cloud. You back out the car and turn on the mobile rig. Instant bedlam. Strange calls. Who are those guys, anyway? You go to 52 simplex and hear a mobile who gives his location as 100 miles away. Back to the local repeater. You hear the ID of a strange repeater. What's going on? Sunspots? Not at all. You've just experienced what's known as anomalous tropospheric transmission.

It is the purpose of this article to explore some of the aspects of unusual VHF tropospheric transmission.

As everyone knows, the layer of air around the earth is called the atmosphere. The bottom portion of the atmosphere is called the troposphere; the upper portion is called the stratosphere. Above the atmosphere is the ionosphere, which is classified into layers D, E and F, according to altitude.

The path of VHF waves is altered by refraction in the troposphere; the path of HF signals is altered by reflection in the ionosphere. Refraction in the troposphere is influenced by weather conditions; reflection in the ionosphere is influenced by solar radiation (sun spots).

Considering the troposphere, it is important to note that this is the region in which all weather phenomena take place.

The top of the troposphere occurs at an altitude of about 50,000 feet — about the altitude of the highest cirrus clouds. The point where the troposphere merges into the stratosphere is known technically as the tropopause. It is not fixed and varies considerably with latitude and season.

From ground level to the tropopause, temperature, barometric pressure and water vapor content all decrease uniformly with altitude under normal conditions.

A VHF radio wave traveling through a vacuum travels in a straight line. However, in passing through the atmosphere, the vertical gradient of atmospheric refractive index causes the ray path to become curved. The refractive index is unity in free space and may increase to 1.0003, for example, near the earth's surface. The refractive index depends upon barometric pressure, water-vapor pressure, temperature and relative humidity. Curvature of the ray is always towards the region having the higher refractive index.

In a normal, undisturbed atmosphere, the index is always higher nearer the ground. This leads to the conclusion that VHF waves must always be bent back to earth to some extent. They are. In fact, this accounts for the fact that the VHF radio horizon is slightly (20% to 30%) farther away than the line-of-sight horizon.

For example, the WR4AOD 16/76 Greensboro repeater is located on a 600-foot tower. Assuming a mobile antenna 6 feet above ground, the maximum line-of-sight distance is 32 miles. However, the maximum range is calculate4d as 40 miles using a conservative average normal refractive index.

As the refractive index near the surface increases due to meteorological factors, the bending increases. At a critical value of the index, the waves are bent continuously so as to just follow the earth's curvature. At a supercritical value (any value larger than the critical value) the waves are bent sufficiently to hit the earth's surface and be reflected upwards again, whereupon they are bent back for another reflection if the path is long enough. This phenomenon is known as "bending" and makes possible unusually long transmission paths as long as conditions prevail. The ray in this case is not actually trapped in a duct; it merely behaves as if it were.

There is, however, a rare condition that can actually cause a "duct" which acts as a waveguide for VHF signals. This occurs when a layer of air with a higher refractive index is sandwiched between two layers of air with lower indices. As the refractive index is determined chiefly by water vapor content, this condition can be met when a warm moist layer exists between two cooler dryer ones. A signal entering the duct can be carried for a considerable distance with little attenuation. This condition can produce spectacular DX.

"Bending" and "ducting" occurs only when favorable weather conditions prevail. Generally, this calls for fairly settled summer weather with little or no wind so as to permit cool moisture laden air to settle to the ground. Then, if a hazy overcast permits the rising sun to warm and dry the upper air before burning off the grund fog, excellent conditions for long-range VHF transmission may occur.

In the CVRA area, exceptional conditions may occur in the summer when a large, slow moving, high pressure area drifts slowly out to sea just north of us. The wind circulation pattern around the high sends a supply of warm moist ocean air into the area from the east or southeast, thus satisfying the requirement for air with a high refractive index close to the ground — thereby causing good "bending" conditions.

"Bending" and "trapping" seldom last for more than a few hours. The conditions that cause them

Continued On Page 16

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COMMUNICATIONS — AN ODDETY, BUT IT WORKS ALWAYS

Item: The Laurinburg Repeater will change from 10-70 to 025-625 very soon. The North Carolina group was experiencing interference from another repeater and moved to a 2nd frequency of 10-70 and caused interference. Now moving to 025-625.

The above excerpt from the North Carolina State news items seems like a normal repeater change, like so many we report. But there is more behind this change than you normally see, so we felt an explanation might be in order.

The fact is that the Laurinburg group and the Lancaster, S.C. group were able to sit down, talk things out and come to a mutual agreement without resentment opn either side and solve a problem.

A little background: Laurinburg was originally on 07-67 for several years, operating mutually with Burlington who was also on 07-67 from a residence in Burlington. The Burlington machine moved to Cane Mt. south of the city, closer to Laurinburg, and several hundred feet higher in elevation. Interference became a fact of life for the group and occasionally both groups. However, they never really got a chance to sit down, face to face and work out the problem. Instead, Laurinburg looked around for another frequency and chose 10-70. Little did they realize that Lancaster, about 75 miles away was hobbling along with their 10-70 machine after a lightning hit, and running at less than half power. On 10-70, Lancaster received interference from Laurinburg base stations, keying both repeaters.

The groups began communicating. And recently the CVRA was called in to conduct a meeting. It was held on a Sunday in Laurinburg. The meeting was conducted by Charles Durst, CVRA President, with Frequency coordinators Al Ross, and outgoing coordinator Herman Cone, and other members of CVRA staff.

Both Laurinburg and Lancaster were well represented, and each had spokesmen, who were well prepared to tell their story.

With the CVRA officials moderating a panel, each side told of the history of their machines, and existing problems. The CVRA officials were only there to coordinate the group, not to advise, unless asked to.

As a result of the meeting the Laurinburg group, according to their spokesman did the "right" thing by announcing that they would move, not back to 07-67 where they would have to contend with Burlington, but chose a less favored split frequency of 025-625.

The Laurinburg group had guts and showed all present, and will show all who hear, that you can come out on top by giving in to a situation. The group accepting help from Lancaster will change over very soon to the split frequency.

Lancaster, showing their admiration agreed to continue running their machine at lower power, and urge their users to prevent interference by running low power until the change can be made by Laurinburg.

The Leadership shown by both Laurinburg and Lancaster renews our faith that Amateurs can work together (as they should) and keep our hobby fun. They proved that fellowship and friendship is much more important than that "preferred spot on the spectrum" where many groups seem to respect more than their fellow Ham.

We the Journal Staff, the CVRA and the 128 other CVRA membership organizations salute you Gentlemen and Ladies in Laurinburg and Lancaster. You have made our day! --Wayne C. Williams, Editor

NOW ISSUING CERTIFICATES

— By Murray Adams, WA4DAN

The Brightleaf Amateur Radio Club is now issuing certificates to check-ins on our 146.52 net. To earn yours, check in ten straight weeks or 12 weeks with only two absences. Endorsements will be awarded for additional times checked in above ten. We meet every Tuesday at 9:00 PM (except the 2nd Tuesday which is the club meeting night) and non-members are invited to check in and are eligible for the certificate.

Tremendous participation by our members, good weather and 1209 total contacts for 3800 points made the BARC 1978 Field Day a huge success. Of the 1209 contacts, 636 were phone and 573 were cw. To top it all off, two contacts were made through the Oscar Satellite. Everyone had a good time and with improving band conditions we should be able to top 5000 points in 1979.

SMITH NAMED KINGSPORT "HAM OF THE YEAR"

— By Bob May, K4SE

.. Gary Smith, K4VZZ, a member of the Kingsport (Tenn.) ARC was recently named by the club, "Kingsport Ham of the Year."

The outstanding award was presented to Smith at special ceremonies. He also was given a new Yaeseu FT-227 2-meter Transceiver.

The award was given to Smith for his unselfish work with local hams in the Kingsport area over the past years, and for his outstanding ability and talents as "engineer in charge" of keeping the Kingsport repeater equipment in top working order.

TECHNICAL TIP—Got 2 pieces of radio gear that seem to bite back or cause a tingle when they are touched? Try grounding them.

INTERFERANCE BIT . . *Continued from Page 1*

accidents and are generally one of the group, who turns out quite embarrassed by the whole situation because such a fuss was raised.

It seems that this unknown person whose transceiver is stuck with its transmitter on, is deemed guilty until proven innocent. This is really rediculous you know . . . why not assume that it's an accident until you prove otherwise, which will prevent much embarrassment to you and all concerned.

Another problem this editor has witnessed when a "key down" situation occurs on a repeater, "policemen" immediately get on the machine and try to talk over the signal. Sometimes they go to the input of the repeater and operate simplex.

Great! This really helps the quite people who are turning beams and trying to triangulate the keying station. There's nothing more irritating and frustrating that to be getting a fix on a keying station and then have "Joe Blow" come on the repeater with his amplifier turned on and start calling frantically for a "control station" to tell them the repeater is being keyed up.

Lets think about this situation gentlemen, and see if we can't come up with a workable plan to go into effect the minute a repeater starts getting keyed up.

My own personal views are something like this:

(1) Leave a "kerchunker" alone . . . don't try to talk to him, and generally he'll go away. Besides your repeater relays will last longer than his push-to-talk thumb.

(2) If you determine there is someone maliciously interfering with the repeater, (by sounds, voice, or profanity, not by a quiet carrier) have an alternate repeater you can go to communicate, preferably a different band. Call on the phone your assigned triangulation stations and get them to work. Get your people assigned have mobile DF equipment on the road, coordinating on the second repeater. Above all, don't shut the repeater down. In some instances you may want to assign one person to talk to the "bandit" if he will talk to you. EVERY ONE ELSE KEEP QUIET.

(3) Everyone should automatically shut up, and not transmit on the repeater that has interference. Leave the input clear for the stations with DF equipment to get this positions.

(4) The FCC is not going to bother you if you talk to a person such as a "CBer" if your intention is to try to "trap" him, after all, aren't we supposed to be policing ourselves.

(5) The trustee should see that all control stations are made aware of the situation. When it is resolved they should see that all concerned are informed of the results.

(6) Never, never talk about what has happened on the repeater during or after such an interference situation.

Many groups will not see eye to eye to my suggestions. But they are offered as something for you to think about.

When your interference situation occurs on your repeater, and it will, you will be ready . . . DFing is like an emergency. It has to be handled in a carefully planned way, and coordinated fully.

Frankly, what I've heard over the past three months when interference begets repeaters, made me quite "sick" by how it was handled. If I were a "malicious interferer", I could have had a ball. They fell right into the trap.

- Wayne C. Williams, K4MOB, Editor

HILLSVILLE HAMFEST MOVES

The Briarpatch ARC announces that the 1979 Hillsville Hamfest has been moved to Elkin at the N.C. National Guard Armory on old Rt. 21, off I-77.

The event will take place Sunday, Feb. 4, 1979. The club reports activities will begin at 8:00 a.m. and continue until 4:00 p.m. with prize drawings. Flea Market and Dealer tables will be available inside. Breakfast and lunch concessions will be served by the Ladies Auxillary of the Briarpatch ARC.

Additional information may be obtained about the Virginia-Carolina Hamfest by contacting Earl Day, Elkin (919) 835-3509, or Phil Berry, Hillsville (704) 728-3203.

ROANOKE VALLEY ARS OFFICERS

The Roanoke Valley Amateur Radio Club announces new officers for the 1979 calendar year. The new officers were elected at the October meeting and will serve beginning January 1st. They are: Dr. David Oxley, WD4NZP, Pres.; Bill Powers, WD4KZA, Sec.; Bill Sprouse, W4KQE, Treas.; Dr. Giff Ammerman, WD4DWB, Ed. Dir.; Sal Yorks, WD4NZX, Program Dir.; Bob Anderson, K4UMK, Equip. Dir. and Ron Fisher, K4LEF, Editor of the club newsletter "W4CA Log". (Dec. WD4DZF)

A NOTE OF THANKS

The CVRA wants to single out perhaps one of the most cooperative efforts for the year.

Our thanks go to Carl Pressler, W4LPL, who reprinted a CVRA membership application, and to the Cape Fear ARS who allowed the application to be included in the bulk mailing of their Hamfest announcements.

Lindsay, our associate membership chairman reports that about 150 new memberships were received into the CVRA by this effort.

Thanks again to the Cape Fear ladies and gentlemen. You went above the call of duty for us. We hope to see more of this from other clubs next year. (editor)

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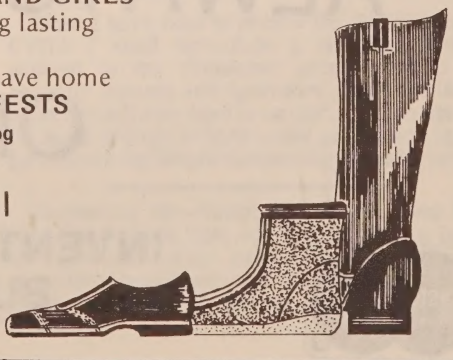

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NORTH CAROLINA VHF TRAFFIC

— By Bill Parris, AA4R and Herb Lacy, N4UE

Within the last five years we have all found it easier to pass traffic into and within North Carolina. This has been due to a number of things including 1) more Amateurs on the air, 2) more HF Nets and participants, and 3) VHF Repeaters in just about every area of the state.

There have been several VHF Traffic Nets formed and they carry a significant volume of traffic . . . but only to a few areas of the state. The vast network of repeaters at our disposal in North Carolina represents a resource that we have not yet tapped for traffic handling. Formal Traffic Nets and Emergency Nets on repeaters are vital elements in training and maintaining organizations that are capable of responding to the needs of specific regions of the state. But the one element that is missing on VHF is the coordinated liason between the various repeaters. In October 1977, the Amateurs of North Carolina demonstrated the capability of rapidly passing a message through VHF Repeaters from Murphy to Manteo and vice versa. And this leads us to the concept of a statewide VHF Traffic Window each evening.

Under this concept during the 8PM to 9PM hour each evening, each repeater would have one or two stations monitoring the frequency to accept traffic into that repeater's coverage area, or to accept traffic to be relayed to a neighboring repeater. There would be no formal net called, and regular operation of the repeater could continue, only to be interrupted if there was any traffic that needed passing.

Where do we begin? Obviously each repeater would have to get volunteers to be on the air during that particular time slot each evening. As volunteers are available, traffic passing could begin. The next step is to put the group to work. If there is no traffic to be passed, stations will tend to "drift away" from their designated time slots and the "window" will disappear.

When do we begin? Now is not soon enough, and with the Christmas traffic facing us within the next few weeks, this would be a good time to start. Let's target for December 1, for each repeater to have designated stations for each evening. Send your roster to N4UE so we can get the word spread around as to who is avalable. Future issues of the "Journal" could carry the list of the VHF WINDOW REPEATERS so everyone would know where to direct traffic.

A coordinator will be needed . . . so if you would be interested in helping to get this concept organized and operational, get in touch with N4UE or AA4R. Meanwhile each group interested in being a part of the VHF REPEATER WINDOW should send their list of stations and periods covered, to N4UE.

Just this simple techique - the "traffic window" - can help us all to strengthen our public service image and capability. The image to the public (non Hams) is important because it is public frequencies that have been allocated to us. We should never regard that allocation as permanent and irrevocable. Our capability is important, too, because under the gun of an emergency is no time to learn the basics of communication. Encourage a "traffic window" on your home repeater and let's get started.

DAFFYNITIONS

Multi-kerchunker—Chronic ailment of the brain that usually spreads to the thumb, causing it to constrict the push-to-talk button.

A VISIT IN CVRA BY TENN. SCM

— By O. D. Keaton, WA4GLS
ARRL SCM Tenn. section

I was fortunate enough to attend the SHELBY, N. C. HAMFEST September 2 & 3, 1978. This was a very great gathering, a large fleamarket and one of the friendliest events that I have ever attended.

The primary purpose of my attendence was to investigate the possibility of Tennessee joining the CAROLINAS-VIRGINIA REPEATER ASSOCIATION. I discussed this idea with a number of repeater owners and operators, the SCM of N. C. AA4R, CVRA president WA4WTX and then met with the officials and members at the annual CVRA meeting on Saturday evening. I presented the request to the floor in a short but complete manner after which some discussion took place. The CVRA group unanimously voted to furnish the Tennessee SCM with a copy of the constitution and by-laws and other material that would be useful in assessing the feasibility of this step and that the Tennessee Section be permitted to join the CVRA if it so desired. This action was certainly gratifying to me because it showed the unselfishness of this great organization. It is believed that Tennessee and the present organization can all benefit from a move like this.

When I have time to review the documents of the CVRA I shall formulate a recommendation to present to the Tennessee amateur radio clubs, repeater owners and operators. I can see this step as one which may lead to an organization which will be large enough to have some persuasion upon the policy making people concerning repeater activity.

TECHNICAL TIP—Talking loudly into your FM rig does not make it "get out" any better. In fact, the overdeviation may cause you to exceed the repeater's passband and no one will be able to understand you. If only all repeaters were made that way!

CHARLOTTE HAMFEST DATE SET - WORK UNDERWAY

The 1979 Charlotte Metroliner Hamfest although in the planning stages for some months now, is still making plans for next year. The dates for 1979 will be March 24th and 25th in the Charlotte Civic Center (same location as last year).

Bill Parris, AA4R is Hamfest Chairman for the 1979 event. He reported to the club that help is needed for all phases of the project. The club has already printed advance flyers and have been distributing them at various Hamfests since late August. (Mechlenburg ARS News)

NEW OFFICERS — FOR CLEMSON ARC

— By Bruce C. Douberley, WB4JNE

The Clemson University ARC elected new officers recently for the year. They are: Dean Gustapson, WB4HSF, President; Mark Rowan, WD4FQW, V.P.; Chris Walker, WA4CEW, Sec./Treas.; and Dr. Lew Fitch, W4VRV, Advisor.

The club, WD4EOG, meets every other Wednesday in the basement of Godfrey Hall on the Clemson Campus.

The club plans include Novice classes in the fall semester and preparation for the annual Clemson University Organization Day.

TEKNIKLE TOPIX

Continued from Page 7

when the two sides of the array are connected together (in parallel) our feed impedance will be 50 ohms. Using the Q-section formula again.

$$Z_0 = \sqrt{Z_{IN}\ Z_T} = \sqrt{100(25)} = 50 \text{ ohms!!}$$

We surprizingly find that our two odd quarter-wavelength transformers can be made of 50-ohm coax. Just remember that when making the matching sections to cut them the same length so that the antennas will still be fed in phase.

You have probably noticed that I did not give any exact cutting lengths for the coax sections in these examples and I give the following reasons:

1. These lengths will depend greatly on the vertical and horizontal stacking distances that one plans to use.
2. The lengths also depend on the velocity of propagation factor of the coax used.
3. Any amateur worthy of his license should know how to calculate a quarter-wavelength piece of coax or multiple thereof.

Have fun and I will see you next issue. 73...73...73

VHF TROPOSPERIC PROPAGATION

Continued From Page 9

are easily upset by atmospheric turbulance caused by warming of the land by the sun or a change in wind direction caused by the inevitable incursion of another high or low pressure system into the area.

Unusual trope conditions can be detected easily by monitoring distant TV stations. The VHF "low" channels (2-6) extend from 54 to 88 Mhz; the "high" channels (7-13) from 174 to 216 Mhz. Although Channel 7 (174-180) is the closest frequency to the 2-meter band, trope bending should show up to some extent on all VHF TV channels. The next time the 2-meter band comes alive, check your TV reception and note which distant station to snext time as an indicator for band openings.

Above all, try to correlate band openings with local weather conditions. That way, you can use the local TV weather report to forecast unusual propagation conditions.

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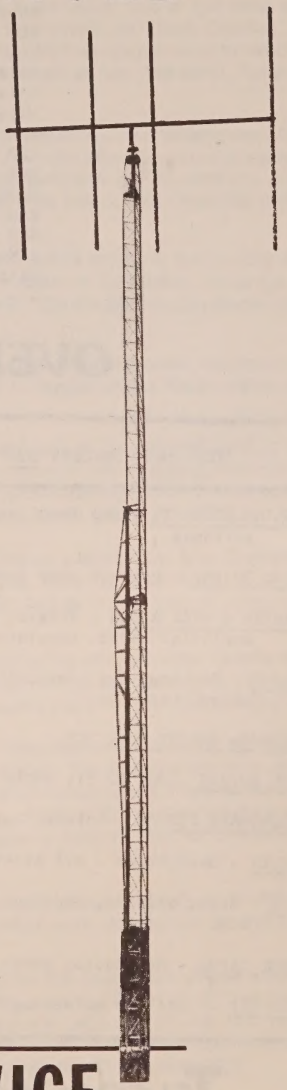

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NORTH CAROLINA STATE NEWS

. . . Eddie Sellars, W4NTQ, Director

SAURATOWN MT. . . The WR4AOW 223.28-224.88 mhz repeater at the 2,100 foot level of Sauratown Mt. completed final upgrading in September. The machine, a converted Clegg FM-76, with microprosser control circuitry received its new Phelps-Dodge cavities, Vanguard 201 Preamp, and KLM amplifier.The repeater now operates with 3/4-inch hardline to a Phelps-Dodge Stationmaster on a 70-foot tower with 100-watts. ERP., Coverage of the machine is still totally undetermined, although mobile coverages in most directions is working at 90 to 95 miles. Base stations in excess of 125 to 150 miles are working it occasionally. The machine will probably provide coverage into West Virginia, Tennessee, and South Carolina, as well as North Carolina and Virginia. A processer controlled battery system is being designed for the repeater now, to remove it from commercial power to batteries and back when electrical storms appear near the mountain top. (WB4SNA, Tommy, W4RXG, Beechum, K4MOB, Wayne)

SALISBURY . . . The Barber Junction ARS reports that the new 223.16-224.76 mhz repeater is now operating well. The machine of VHF boards is using split antennas on the 13-73 WR4AAA Salisbury tower. The club plans continual upgrading and improvements in the future. Coverage extends mobile into Winston-Salem, and Base coverage into Greensboro. 220 mhz activities is picking up in the Salisbury area now that the machine is operation and may extend into Charlotte in the future. (AA4T-Tony.)

HIGH POINT . . . By press time, the new 222.32-223.92 High Point K4AZA/R repeater will be moved to the 2-meter 40-00 tower. The 220 mhz repeater, now fully operational had its Phelps-Dodge duplexer installed in September. Coverage of the repeater will extend throughout the Winston-Greensboro-High Point area and beyond. The machine is also planned for some linking with other bands. (WA4YHH, Jim, K4AZA, F.L.)

BURGAW . . . The long awaited equipment should be delivered by now for the new Burgaw 34-94 repeater. The machine will be Phelps-Dodge vintage (antennas, duplexer, hardline) and located 9-miles West of Burgaw at the Radio station on Highway 421. The machine will operate under the call of K4LZY/R. (W4YBA, Shep)

GREENSBORO . . . Ownership of the 63-03 repeater in Greensboro has been turned over to Jim, WD4AIC and Larry, WD4CWC. The former part owner, Elliott, WB4CFK has been transferred to Boston. The repeater now operating from atop a new tower in downtown Greensboro operates under the call of WD4IPZ/R. The group is considering a new antenna and a duplexer as future improvements to the system. The split site repeater has full auto-patch facilities. (Larry, WD4CWC)

AHOSKIE . . . The CVRA Frequency Coordinating Chairman, Al Ross, K4CAW received a letter from Alan Copeland, WA4JOK informing that a 2-meter was under construction and would be on the air shortly. They said they would be going on 99-39, for the new Ahoskie repeater, running 60-watts from a 200-foot tower. Actual on-air date is unknown. (AL,K4CAW)

FAYETTEVILLE. . . . Bill Finch, W4EHF reports progress is slow due to problems, but he hopes to have the Fayetteville 220 mhz repeater on soon, possibly by press time of this Journal. The repeater to operate on 222.42-224.02 will be a split side machine, with a 425 mhz link between receiver and transmitter. The machine will use the call WR4ADK. (Bill, W4EHF)

SAURATOWN MT . . . (18-mi North Winston-Salem) Tommy Talbert, WB4SNA has coordinated the 2-meter sub-band repeater pair of 144.79-145.39 as his plans for the major cog of the East-West Linking system. The repeater will be located on Sauratown in the same building housing the 220 mhz repeater. He said on-air sked is not firmed up yet. The machine will replace the lighting destroyed 2-meter simplex link for linking with High Point, Asheboro, and Raleigh. The new machine will be an open repeater, but users will be encouraged not to use it as a standard ragchew machine, but for link-talking purposes. (Tom, WB4SNA)

LAURINBURG . . . The Laurinburg repeater WR4AOX has moved to 025-625. The machine was originally on 07-67 for several years, but received interference from another machine and tried 10-70 but didn't work, so decided on the split frequency. (Larry, WA4RHY)

CHARLOTTE . . . The first 6-meter FM repeater for the Charlotte area is planned for the near future. Diego Porres, WA4TPZ reports that he and Roy Lincoln, WA4DOU are working on the machine. The frequency of 52.07-53.07 has been coordinated by the CVRA Coordinating Committee. Porres said they were looking for a site in Lancaster County, S.C. (near Charlotte) for the machine. He said they were also looking for anyone who might be intersted in 6-meter FM to assist in getting the machine on. No on-air date is firm, but it was hoped to have the machine on before Winter. (Diego, WA4TPZ)

WADESBORO . . . The new W4USH/R repeater for Wadesboro came on the air Aug. 26th. The machine is located on top of a tower on the Hospital in Wadesboro. The ICOM 22A's repeater with KLM amplifier feeds a Phelps-Dodge duplexer into a Hustler Colinear. The 235-835 machine a member of the CVRA is owned by Fayette J. Cloud of Lilesville. The repeater operates from 6:30 a.m. to 12 midnight daily. Autopatch facilities are planned in the future. (Fayette, W4USH & CVRA file)

OXFORD . . . A repeater is under construction in Oxford. The frequency of 145-745 will be used on the G.E. Prog. line machine with a "J" Pole antenna. The machine will operate under the call of WA4JCS and being constructed by Walter Fiscus of Oxford. Plans for Autopatch facilities are also for the machine. Fiscus said he will join the CVRA as a full member when he gets the machine on the air. No on-air date is planned as of yet. (CVRA file)

EDEN . . . The supporting group of the WR4AZX, 84-24 Eden repeater recently installed a new VHF Enginering repeater, with 70-watt amplifier and Janel preamp. The machine is doing well with 24-hour operation, its antenna system at 158 H.A.A.T. Emergency power capabilities are planned in the future. The old machine will be used as a backup. The repeater is located at the home of WB4CTZ and WA4ACP in Eden near the new Miller Brewing Company Plant. (Kerry, WA4ACP)

MT. PISGAH . . . The Mt. Pisgah 220 mhz repeater now has a Super Stationmaster, with a preamp on the receiver, and feeds a KLM 60 watt amplifier to a home coaxial colinear on the transmit side. Activity in Asheville is moderate on 220, but picking up. WR4AEV, 222.34-223.94 was one of the first two 220 mhz repeaters on in the CVRA territory. (Ken WA4BVW)

FRANKLIN . . . The Franklin ARC which operates the 96-36 N4AC/R 2-meter repeater is presently constructing their new 220 mhz repeater on Cowee Bald. The machine will operate on 223.34-224.94. Slim, K4AV, reporte the Franklin club set up a booth at the Macon County Fair during September to demonstrate Amateur Radio to the public. (Ken, WA4BVW)

HAYWOOD COUNTY . . . The Haywood County Amateur group met with Jimmy Reed, Civil Preparedness Director recently to offer Amateur Services in the event of an emergency in the County. The local repeater on 87-27, N4SM/R now has autopatch facilities. (The repeater is listed in the CVRA Journal index as Waynesville) (Ken, WA4BVW)

ASHEVILLE . . . The 31-91 WB4DRN/R repeater with Autopatch facilities conducts a Civil Preparedness net each night except Tues., and Thurs. at 9 p.m. The repeater has changed trustees, formerly operating with the call W4NQA/R. (Ken, WA4BVW, Carl, N4AA)

ROBBINSVILLE . . . The new repeater in Robbinsville located atop Joanna Bald is now on the air with extended coverage. The machine, operating on 915-315 under the call of WR4BAN is receiving some interferance problems with a Georgia repeater which operates low in, exactly opposite from the CVRA band plan. The Robbinsville group plans a 6-meter repeater on the site also in the near future. (Ken, WA4BVW)

TENNESSEE STATE NEWS

Bob May, K4SE, Reporter

KINGSPORT . . . The Kingsport ARC has installed a Motorola Micor repeater on Bays Mt. The WR4AGE, 37-97 machine features a system which when called up will tell the user if his input frequency is high or low. Autopatch may be in operation by CVRA Journal Presstime. The old Standard Machine will be used as a backup.

JONESBORO . . .A new repeater will soon be in operation in Jonesboro with the call WB4SQC/R as soon as e frequency is coordinated with both Tenn. and CVRA. The repeater will offer local coverage and autopatch facilities to Jonesboro and surrounding area. Benny, WB4SQC plans to get 19-79 and 87-27 crystals as well as the frequency of his repeater so it can be used as a backup for emergency purposes.

JOHNSON CITY . . .WR4AIP, 19-79 repeater has become the latest Tennessee repeater to join the CVRA. The machine offers excellent coverage throughout the Tri-Cities (Bristol, Johnson City and Kingsport) area and into the N.C. and Va. border regions. Now both Johnson City repeaters (19-79 and 87-27(are full fledged CVRA Full Members.

BRISTOL . . . The unique city of Bristol can boast being a member of two states, Virginia and Tennessee, one of the few in the U.S. can boast this. Main Street in Bristol, called State Street, is actually the Tn./Va. border. Bristol boasts two fine repeaters, 07-67 and 28-88, owned and operated by Bristol ARC.

GREENEVILLE . . . Speaking of borders, the WR4AHP 10-70 Greeneville repeater is located actually about 20-feet within the border of North Carolina on Viking Mt. This repeater, owned and operated by the Greeneville, ARC, provides coverage from the Asheville, N.C. area to some areas as far North as Cumberland Gap, Ky.

GREENEVILLE . . . We have reports of a new 2-meter repeater going on in Greeneville mainly for local coverage. No other information is known at press time, we think they are considering 147.66-147.06 and probably waiting for coordination.

TENNESSEE TRI-CITIES AREA NETS:

Bristol, Tuesdays, 8:00 p.m. 07-67 K4ILW/R
Kingsport, Wednesdays, 8:00 p.m. 37-97 WR4AGE
Johnson City, Thursdays, 8:00 p.m. 19-79 WR4AIP

VIRGINIA STATE NEWS

Carter Cogle, K4ARO, Director

DANVILLE . . . The Danville Community College repeater is now on the air. The 325-925 machine is a G.E. Prog Line, with VHF Engineering COR and I.D.er, Wacomm cavities and a Ringo Ranger being fed about 50 watts. The machine covers the city well and into Pittsylvania County, and Caswell County, N.C. The repeater call is WB4GJG/R. (Wayne, K4AUG)

ROANOKE . . . The Roanoke Valley ARC net has been running continuously for over seven years. The net is held each Wednesday night at 8 p.m. on the 385-985 WR4AFY machine with 35 to 40 checkins. The Club invites you to join in "da fun" if you're in the area. (Dick, K4SR)

RICHMOND . . . The Richmond Amateur Radio Club, the oldest Amatuer Radio Club in Richmond operates the 34-94, WR4ADI repeater. Rod C. Kiepper, W4SQT is Chairman of the RARC repeater committee with Jim Fitzgerald, K4OJE as assistant. The 34-94 repeater is kept on tone access (1336 hz) or "whistle up" most of the time to avoid unnecessary interference with Hampton during periods of unusual propagation. On special occasions or during Holiday travel the machine is placed on carrier access. The RARC meets the second Friday of each month at the Stone House, Forest Hill Park, Richmond, Va. President of the club is Chris Thomkins, N4UY. (Rod, W4SQT)

LYNCHBURG . . . The Lynchburg ARC has printed a very attractive brochure to pass out to the General public. The brochure tells all about the LARC members, services performed by the club through Amateur Radio, and other interesting information intended to inform the public about the Lynchburg Club and Amateur Radio in general. (LARC Bulletin)

CHESAPEAKE . . . The Chesapeak WR4ACN repeater has been rebuilt. The 19-79 machine now a G.E. Master II is equipped with new control logic and new identifier. The Autopatch has been removed from the machine. Coverage and performance remains good. (Wally, WA4KXV)

NEWPORT NEWS . . . The WA4JRV/R repeater on 43-03 is in the testing stages now. Ernest Moody, owner and trustee of the new machine has the machine on and operational during the day time. He reports that it will be moved to a permanent location and on 24-hours a day in the near future. (Wally, WA4KXV)

WILLIAMSBURG . . . Dick McNutt, W4NTG reports the 07-67 repeater for Williamsburg will soon be in operation. The G.E. Prog Line machine is ready to go. He is expecting the duplexer to arrive any time, probably as you read this. (Wally, WA4KXV)

TAZEWELL . . . The Tazewell 75-15 repeater now has a new 50-foot tower and a Super Stationmaster antenna. The tip of the antenna is just over 4,500 feet above sea level. The machine is located on Morris Knob in Tazewell County. NORMAL base station coverage extends well into Southern Ohio, West Virginia, Eastern Kentucky, East Tennessee, and Western Virginia. North Carolina Coverage extends East beyond Greensboro. MOBILE coverage without hilltopping is common in Williamson, Welch, Pineville, and Beckley, W.Va., East beyond Roanoke, Va., West to Pikeville, Kentucky, and Southwest to Bristol and Johnson City, Tennessee and portions of North Carolina. BAND OPENINGS have allowed over 38 States to work through the WA4QKH/R machine . (Don WA4AUA)

PRINCETON(W.Va.) . . . The new 46-06 Princeton machine went on the air September 15. The VHF Engineering machine is located with its antennas at 2,600 feet. WB8NRK/R is reported to be giving good coverage around the Princeton area. (Don, WA4AUA)

GRUNDY . . . The Grundy 90-30 repeater is on the air with autopatch and emergency power. According to Dan, WD4DCX, the Spectrum 1000 machine is working well. (Don, WA4AUA)

BALD KNOB . . . There has been talk among hams in Montgomery and Giles Counties about placing a 31-91 repeater (coordinated for Blacksburg) at Bald Knob, near Mountain Lake in giles County. Elevation will be over 4,000 feet with wide area coverage possibilities. Mac, WD4ADY, of Narrows, and WB8BON, Bob of Blacksburg report the machine is just in the talking stages now. (Don, WA4AUA)

BLUEFIELD(Va., W.Va.) . . . The advent of 2-meter repeaters in the Bluefield area is partly credited with the growth of the East River Radio Club from less than 30 members to more than 50 members during the Spring and Summer of 1978. The club had 30 enrollments for its last Novice class. Novice and General classes are planned before the end of the year. Fritz, WA8RHT, and Lloyd, WB4YTH are class instructors. The club moved into its new meeting place last August. Meetings are held 1st and 3rd Mondays. (Don, WA4AUA)

Continued On Next Page

SOUTH CAROLINA NEWS

Wade Holland, W4AZT, Director

SPARTANBURG . . . Don Fortner K4SAO and a group are testing a repeater on Hogback Mountain at the Channel 7 transmitter site, on the uncoordinated frequency of 19-79. According to Wade Holland, S.C. Director, no coordination has been made as of press time, and he is afraid of interference with a nearby Georgia repeater on the same frequency, if the machine is placed on the air at that location on 19-79. (Ken, WA4BVW, Wade, W4AZT)

CHERAW . . . The WD4HEH/R repeater in Cheraw, formerly operating on 63-03 planned to shift frequency in late October to 735-135. According to Clyde Wallace, trustee, the repeater although with high input, was receiving and giving interference to the Rock Hill 43-03 repeater. The groups met and the Cheraw group agreed to make the move .(Clyde, WD4HEH) (Editor: Its really welcome news to see groups work out mutual problems between themselves, as Clyde told us, communications was the answer, Congratulations fellows.)

SAVANNAH (Ga.) . . . The ARC of Savannah reports that call signs of their two repeaters 28-88 and 37-97 to W4HBB/R with James W. Parker as trustee. The association also authorized expenditure of necessary funds to improve the antenna system of the 37-97 machine to give improved service to fringe areas not covered by other repeaters and eliminate a dead spot in coverage South along I-95. Both machines are CVRA member repeaters. (Walt, WA4LHT)

SAVANNAH (Ga.) . . . The Coastal Area Repeater Society of Savannah has their new 63-03 machine on the air and is sounding good. This is their second repeater and is located on the Savannah Hilton. The club's 10-70 machine continues to give excellent coverage. (Tommy, WB4PVL)

CHARLESTON . . . The frequency of 19-79 has been coordinated for a new Charleston repeater. K4ESG and K4LWS have the machine built and are moving forward. The antenna will be approximately 930 H.A.A.T. which should give excellent coverage for the machine. On-Air time is expected sometimes in December. (Tommy, WB4PVL)

SUMMERVILLE . . . The Charleston ARC (formerly the Holiday VHF Society) has a repeater ready to begin operation in the Summerville area at 300 feet H.A.A.T. The repeater is operating at a temporary location at present. The machine will be on 25-85. (Tommy, WB4PVL)

WHITE HALL . . . The 31-91, WR4AQL White Hall machine is operating well. The machine is sponsored by the Coastal ARA and is a CVRA member repeater. The club has authorized money for installation of a new antenna. The group wants to improve coverage into Beaufort and the islands along the coast, while maintaining present coverage inland. Thomas Martin, WB4PVL of Walterboro requests that anyone with ideas or suggests for eliminating or reducing shadow effect on a large cross section tower 7 feet wide, he would appreciate hearing from them. (Tommy WB4PVL)

SPARTANBURG . . . The 69-09 Spartanburg WR4BDT repeater has been moved to Melrose Mt. Coverage has been improved greatly. Signals from the repeater are being heard strongly in the Asheville N.C. area. (Ken, WA4BVW)

GASTON . . . The new 144.61-145.21 Mid-Carolina Repeater Association machine is now on the air. The machine is located about 10 miles North of Swansea. The machine has autopatch facilities available. (Paul, K4AVU) Editor: This machine formerly was listed as Columbia in the August Journal index, but is now listed as Gaston.

COLUMBIA . . . The Columbia 222.30-223.90 repeater has been moved from its temporary site downtown to the 2-meter 16-76 site. Coverage has extended greatly for the machine now located some 250 feet H.A.A.T. The tower is located on Wildcat Road at Dixie Road in Columbia. (Al, WB4URY)

VIRGINIA NEWS ITEMS CONTINUED

VIRGINIA RAMBLINS . . . Carter Cogle writes that activity around the Old Dominion has picked up over the past couple of months. Several new repeaters, one in KILMARNOCK, a RTTY repeater for FOREST (Lynchburg, area), and a local and long range repeater for SALEM are some of the new machines planned in the near future . . . . The PETERSBURG 99-39 machine is being completely refurbished with new features including autopatch . . . . .The RICHMOND 28-88 repeater is preparing to install a new Stationmaster at least 100 feet higher than the present antenna. Carter adds that activity on local repeaters (Petersburg) stayed fairly high during the summer, with lots of transient users. DICK, W4NTG promises that the WILLIAMSBURG 07-67 machine will be on soon . . . . .The FRANKLIN 90-30 repeater group is still as of press time anxiously awaiting the arrival of their goodies from Phelps-Dodge to improve the machine. Wayne Edwards, K4AUG reports the DANVILLE Community College 325-925 repeater went on the air July 26.

Six Meter activity has been low due to poor band conditions. Local activity is up in the Richmond area, with new stations showing up regularly . . . . .Ten meters has been very good with rising MUF's and the San Diago 29.56-66 and Los Angeles 29.58-68 repeaters are being heard and worked daily from the Richmond area. Many West Coast hams have been working Australia on 29.6 FM . . . . . On the other end of the spectrum, Barry, WA4NNJ and Paul, WB4YMA are trying to make some old gear work on 446 mhz. Barry is another newcomer to 10 meter FM . . . . .(Carter, K4ARO)

DISTRIBUTION OF REPEATERS BY FREQUENCY

2 METERS

4.61 /5.21	KERNERSVILLE	NC
	GASTON	SC
4.79 /5.39	SAURATOWN MT	NC
4.87 /5.27	LILLINGTON	NC
4.89 /5.49	BLUEFIELD (WVA)	VA
6.01 /6.61	GREENSBORO	NC
	NEW BERN	NC
	GREENVILLE	SC
	MYRTLE BEACH	SC
	BRUMLEY MT	VA
	LYNCHBURG	VA
6.025/6.625	LAURINBURG	NC
	HARRISONBURG	VA
6.04 /6.64	HENDERSONVILLE	NC
	RALEIGH	NC
	WINSTON-SALEM	NC
	SUMTER	SC
6.055/6.655	CONCORD/KANNAP.	NC
	ALEXANDRIA	VA
6.07 /6.67	BURLINGTON	NC
	FOREST CITY	NC
	BARREN SPRINGS	VA
	LEXINGTON	VA
	WILLIAMSBURG	VA
6.085/6.685	STATESVILLE	NC
	MCCLEAN	VA
6.10 /6.70	GREENVILLE	SC
	LANCASTER	SC
	SUMMERVILLE	SC
	NORFOLK	VA
	WHITE OAK MT	VA
6.115/6.715	FAYETTEVILLE	NC
6.13 /6.73	ENGLISH MT.(TN)	NC
	SALISBURY	NC
	WILMINGTON	NC
	N. AUGUSTA	SC
	HAMPTON	VA
	ROANOKE	VA
6.145/6.745	OXFORD	NC
6.16 /6.76	ASHEVILLE	NC
	GREENSBORO	NC
	GRIFTON	NC
	CHARLESTON	SC
	COLUMBIA	SC
	BLUEFIELD (WVA)	VA
	CHARLOTTESVILLE	VA
	FOREST/LYNCHBRG	VA
6.175/6.775	ELIZABETHTON	NC
6.19 /6.79	HIGH POINT	NC
	JOHNSON CTY(TN)	NC
	CHARLESTON	SC
	TOCCOA (GA)	SC
	CHESAPEAKE	VA
	FAIRFAX	VA
6.205/6.805	GASTONIA	NC
6.22 /6.82	DURHAM	NC
	ROARING GAP	NC
	WILMINGTON	NC
	GREENVILLE	SC
	ARLINGTON	VA
	COVINGTON	VA
	WINCHESTER	VA
6.235/6.835	WADESBORO	NC
6.25 /6.85	HICKORY	NC
	REIDSVILLE	NC
	SEVEN SPRINGS	NC
	FLORENCE	SC
	LAURENS	SC
	SUMMERVILLE	SC
6.28 /6.88	RALEIGH	NC
	SHELBY	NC
	COLUMBIA	SC
	SAVANNAH (GA)	SC
	RICHMOND	VA
	ROANOKE/SALEM	VA
6.31 /6.91	AHOSKIE	NC
	ASHEVILLE	NC
	FAYETTEVILLE	NC
	LEXINGTON	NC
	WHITE HALL	SC
	BLACKSBURG	VA
	FARMVILLE	VA
	TYSONS CORNER	VA
6.325/6.925	DANVILLE	VA
6.34 /6.94	AURORA	NC
	BURGAW	NC
	CHARLOTTE	NC
	DURHAM	NC
	JACKSONVILLE	NC
	MANTEO	NC
	CHARLESTON	SC
	COLUMBIA	SC
	GREER	SC
	GALAX	VA
	HAMPTON	VA
	RICHMOND	VA
	ROANOKE	VA
	STAUNTON	VA
6.355/6.955	ROCKINGHAM	NC
6.37 /6.97	KINGS MTN	NC
	MT AIRY	NC
	SMITHFILED	NC
	ANDERSON	SC
	FLORENCE	SC
	SAVANNAH (GA)	SC
	BULL RUN/MANNA.	VA
	VIRGINIA BEACH	VA
6.385/6.985	ALBEMARLE	NC
	ROANOKE	VA
6.40 /7.00	HIGH POINT	NC
	JACKSONVILLE	NC
	MARION	SC
	PICKENS	SC
	SUFFOLK	VA
6.43 /7.03	ERWIN	NC
	ROCK HILL	SC
	BLACKSBURG	VA
	HAMPTON	VA
6.46 /7.06	CHARLOTTE	NC
	ELIZABETH CITY	NC
	SOUTH BOSTON	VA
6.475/7.075	BURLINGTON	NC
7.255/6.835	COLUMBIA	SC
7.30 /7.90	INDIAN TRAIL	NC
	MONROE	NC
7.38 /7.98	DURHAM	NC
7.615/6.015	SUMTER	SC
7.63 /7.03	GREENSBORO	NC
	ROANOKE RAPIDS	NC
7.645/7.045	GREENVILLE	SC
7.66 /7.06	MACO	NC
	SUMTER/SHAW	SC
7.675/7.075	GREENVILLE	SC
7.69 /7.09	GREENVILLE	NC
	ORANGEBURG	SC
	SPARTANBURG	SC
	BRIARPATCH MT	VA
7.705/7.105	MARION	NC
	FOREST	VA
7.72 /7.12	GASTONIA	NC
	GREENSBORO	NC
	ROCKY MOUNT	NC
	CULPEPPER	VA
7.735/7.135	CHERAW	SC
7.75 /7.15	MORGANTON	NC
	TAZEWELL	VA
7.765/7.165	GREENWOOD	SC
7.78 /7.18	CHARLOTTE	NC
	MT AIRY	NC
	SANFORD	NC
	DORCHESTER	SC
	DUBLIN	VA
	FORT LEA	VA
	PETERSBURG	VA
	PULASKI	VA
7.795/7.195	LAKE TOXAWAY	NC
7.81 /7.21	GASTONIA	NC
	GREENSBORO	NC
	LITTLE MT	SC
	HIGH KNOB	VA
	MCLEAN	VA
	WISE	VA
7.825/7.225	HILLSBOROUGH	NC
7.84 /7.24	EDEN	NC
	FRANKLIN	NC
	PINE BLUFF	NC
	SHELBY	NC
	COLUMBIA	SC
	SOUTH HILL	VA
	WOODBRIDGE	VA
7.855/7.255	ASHEBORO	NC
7.87 /7.27	BENSON	NC
	JOHNSON CTY(TN)	NC
	WAYNESVILLE	NC
	CHARLESTON	SC
	LONG MT	SC
	GUM SPRING	VA
	SALEM	VA
7.885/7.285	MARTINSVILLE	VA
7.90 /7.30	LEXINGTON	NC
	BERRYVILLE	VA
	COURTLAND	VA
	FRANKLIN	VA
	GRUNDY	VA
7.915/7.315	KERNERSVILLE	NC
	ROBBINSVILLE	NC
	ALEXANDRIA	VA
7.93 /7.33	FAYETTEVILLE	NC
	LENOIR	NC
	N. AUGUSTA	SC
	COLE MT	VA
	KILMARNOCK	VA
	SALUDA	VA
7.945/7.345	DANVILLE	VA
7.96 /7.36	BOONE	NC
	FRANKLIN	NC
	LUMBERTON	NC
	COLUMBIA	SC
7.975/7.375	SALEM	VA
7.99 /7.39	AHOSKIE	NC
	CHARLOTTE	NC
	PETERSBURG	VA

220 MHZ

2.30 /3.90	COLUMBIA	SC
	GREENVILLE	SC
2.32 /3.92	HIGH POINT	NC
2.34 /3.94	ASHEVILLE	NC
	HILLSBOROUGH	NC
	SUMTER	SC
	TYSONS CORNER	VA
2.38 /3.98	GREER	SC
2.40 /4.00	LOCUST	NC
2.42 /4.02	FAYETTEVILLE	NC
	HICKORY	NC
2.46 /4.06	GREENVILLE	SC
2.50 /4.10	DURHAM	NC
2.54 /4.14	MOCKSVILLE	NC
2.80 /4.40	GIBSONVILLE	NC
3.04 /4.64	RALEIGH	NC
3.10 /4.70	WINSTON-SALEM	NC
3.16 /4.76	SALISBURY	NC
3.28 /4.88	SAURATOWN MT	NC
3.30 /4.90	LEXINGTON	NC
3.34 /4.94	DURHAM	NC
	FRANKLIN	NC

NORTH CAROLINA REPEATERS

TWO METERS

AHOSKIE	WR4AFB	146.31	146.91		PA
AHOSKIE	WA4JOK	147.99	147.39	N	C
ALBEMARLE	WR4BBX	146.385	146.985	L	
ASHEBORO	WR4AOE	147.855	147.255	A	
ASHEVILLE	WR4AEV	146.16	146.76		
ASHEVILLE	WB4DRN	146.31	146.91		A
AURORA	WR4ABQ	146.34	146.94	N	O
BENSON	WR4ARL	147.87	147.27		PA
BOONE	WR4ATQ	147.96	147.36		
BURGAW	K4LZY	146.34	146.94		
BURLINGTON	WR4AKY	146.07	146.67		A
BURLINGTON	WR4AIF	146.475	147.075		A
CHARLOTTE	WR4AEU	146.34	146.94		A
CHARLOTTE	WR4ALO	146.46	147.06	N	A
CHARLOTTE	WR4ABK	147.78	147.18		
CHARLOTTE	WR4AWQ	147.99	147.39		
CONCORD/KANNAP.	K4CEB	146.055	146.655		A
DURHAM	WR4AGC	146.22	146.82		
DURHAM	WR4BEK	146.34	146.94		
DURHAM	WR4AJY	147.38	147.98	N	
EDEN	WR4AZX	147.84	147.24		
ELIZABETH CITY	WR4ADN	146.46	147.06		A
ELIZABETHTON	W4DCD	146.175	146.775	N	P
ENGLISH MT.(TN)	WR4APU	146.13	146.73		
ERWIN	WR4ALY	146.43	147.03	N	
FAYETTEVILLE	WR4BCA	146.115	146.715	N	
FAYETTEVILLE	WR4ANN	146.31	146.91		A
FAYETTEVILLE	W4LPL	147.93	147.33		
FOREST CITY	WR4AHA	146.07	146.67		A
FRANKLIN	WR4ALD	147.84	147.24		
FRANKLIN	N4AC	147.96	147.36	N	
GASTONIA	WR4BAD	146.205	146.805	N	L
GASTONIA	WR4ATP	147.72	147.12	N	
GASTONIA	WR4AXH	147.81	147.21		
GREENSBORO	K4SNI	146.01	146.61		A
GREENSBORO	WR4AOD	146.16	146.76		
GREENSBORO	WD4IPZ	147.63	147.03		A
GREENSBORO	WR4ANP	147.72	147.12		EA
GREENSBORO	WR4ANL	147.81	147.21	N	
GREENVILLE	W4GDF	147.69	147.09		A
GRIFTON	WR4ABP	146.16	146.76		
HENDERSONVILLE	WR4ALC	146.04	146.64		
HICKORY	WR4ACM	146.25	146.85		
HIGH POINT	WR4AFV	146.19	146.79		
HIGH POINT	K4AZA	146.40	147.00		
HILLSBOROUGH	WR4AGC	147.825	147.225		A
INDIAN TRAIL	WR4APY	147.30	147.90	N	
JACKSONVILLE	WR4ATW	146.34	146.94		A
JACKSONVILLE	WD4FVO	146.40	147.00		A
JOHNSON CTY(TN)	WB4CXM	146.19	146.79		
JOHNSON CTY(TN)	WA4DIU	147.87	147.27		A
KERNERSVILLE	AB4X	144.61	145.21	N	C
KERNERSVILLE	WB4RGV	147.915	147.315		
KINGS MTN	WR4AYN	146.37	146.97		
LAKE TOXAWAY	WR4AGH	147.795	147.195	N	
LAURINBURG	WR4AOX	146.025	146.625		
LENOIR	WR4ARG	147.93	147.33		
LEXINGTON	WR4BDA	146.31	146.91		PA
LEXINGTON	WR4ABX	147.90	147.30		C
LILLINGTON	WA4FKI	144.87	145.27	N	P
LUMBERTON	WR4BDQ	147.96	147.36		A
MACO	K4OVA	147.66	147.06		
MANTEO	WR4AKB	146.34	146.94		A
MARION	WR4BBN	147.705	147.105		
MONROE	WR4AJX	147.30	147.90	N	
MORGANTON	WR4AQI	147.75	147.15		
MT AIRY	WR4ACJ	146.37	146.97		A
MT AIRY	WR4AHE	147.78	147.18		
NEW BERN	WD4JMS	146.01	146.61		A
OXFORD	WA4JCS	146.145	146.745	N	C
PINE BLUFF	WR4BAR	147.84	147.24		
RALEIGH	WR4ACF	146.04	146.64		
RALEIGH	WR4AOE	146.28	146.88		PA
REIDSVILLE	K4YFT	146.25	146.85		A
ROANOKE RAPIDS	K4PUV	147.63	147.03	N	
ROARING GAP	WR4AGS	146.22	146.82		
ROBBINSVILLE	WR4BAN	147.915	147.315	N	
ROCKINGHAM	WR4	146.355	146.955	N	C
ROCKY MOUNT	WR4ADN	147.72	147.12		A
SALISBURY	WR4AAA	146.13	146.73		PA
SANFORD	WB4EJJ	147.78	147.18		A
SAURATOWN MT	WB4SNA	144.79	145.39	N	CL
SEVEN SPRINGS	WR4AEF	146.25	146.85		A
SHELBY	WR4ABF	146.28	146.88		
SHELBY	WR4AWU	147.84	147.24		
SMITHFILED	WR4BBO	146.37	146.97		
STATESVILLE	WR4AZS	146.085	146.685		
WADESBORO	W4USH	146.235	146.835		
WAYNESVILLE	N4SM	147.87	147.27		
WILMINGTON	K4OVA	146.13	146.73		
WILMINGTON	WR4AHL	146.22	146.82		
WINSTON-SALEM	WR4ARD	146.04	146.64		A

SIX METERS

CARY	WR4AVP	52.35	53.35		
CHARLOTTE	WA4TPZ	52.07	53.07	N	P
DURHAM	WR4ASZ	52.15	53.15		L
GRAHAM	WR4AYO	52.45	53.45		P
HENDERSONVILLE	WR4ALC	52.01	53.01		O
HICKORY	WR4ACM	52.47	53.47		
RALEIGH	WR4AOE	52.05	53.05		
RALEIGH	WR4BDU	52.25	53.25		
SAURATOWN MT	WR4AOW	52.17	53.17		C

220 MHZ

ASHEVILLE	WR4AEV	222.34	223.94		
DURHAM	WR4ASZ	222.50	224.10		L
DURHAM	WR4ASZ	223.34	224.94		P
FAYETTEVILLE	WR4ADK	222.42	224.02		C
FRANKLIN	N4AC	223.34	224.94	N	C
GIBSONVILLE	WR4BBS	222.80	224.40	N	C
HICKORY	WR4ACM	222.42	224.02		
HIGH POINT	K4AZA	222.32	223.92		
HILLSBOROUGH	WR4AGC	222.34	223.94		
LEXINGTON	WR4BDA	223.30	224.90		P
LOCUST	WR4BBA	222.40	224.00		
MOCKSVILLE	WB4SNA	222.54	224.14	N	C
RALEIGH	WR4BDU	223.04	224.64		
SALISBURY	WR4AAA	223.16	224.76		
SAURATOWN MT	WR4AOW	223.28	224.88		
WINSTON-SALEM	WR4ARD	223.10	224.70		R

450 MHZ

ASHEVILLE	WR4ALE	449.90	445.90	N	C
BURLINGTON	WR4AKY	448.25	447.25		VC
CHARLOTTE	WR4ALO	449.85	444.85	N	
CONCORD/KANNAP.	WA4UPO	449.65	444.65	N	C
DURHAM	WR4ASZ	449.35	444.35		
HIGH POINT	WR4ADR	447.90	442.90		
HILLSBOROUGH	WR4AGC	449.10	444.10		A
MOYOCK	WR4BBP	447.10	442.10		C
SALISBURY	WR4AAA	449.70	444.70		P
SAURATOWN MT	WR4AOW	448.00	443.00		C

REPEATER SYMBOLS

N	NON Member CVRA	L	Linked
A	Autopatch	C	Under Construction
PA	Private Autopatch	P	Proposed Repeater
EA	Emergency Autopatch	O	Off Air Temporarily
T	Tone Access	V	Television
M	T-MARC Member Repeater	R	RTTY

SOUTH CAROLINA REPEATERS

TWO METERS

ANDERSON	WR4AIO	146.37	146.97		PA
CHARLESTON	WR4ASP	146.16	146.76		A
CHARLESTON	K4ESG	146.19	146.79	N	C
CHARLESTON	WR4AFX	146.34	146.94		T
CHARLESTON	WR4BCP	147.87	147.27		A
CHERAW	WD4HEH	147.735	147.135	N	
COLUMBIA	WR4AYE	146.16	146.76		
COLUMBIA	WR4ABA	146.28	146.88	N	
COLUMBIA	WR4ACD	146.34	146.94		
COLUMBIA	WR4	147.255	146.835	N	
COLUMBIA	WR4AYE	147.84	147.24		A
COLUMBIA	WR4ASE	147.96	147.36		A
DORCHESTER	W4NAT	147.78	147.18		
FLORENCE	W4ULH	146.25	146.85		
FLORENCE	WR4AGM	146.37	146.97		PA
GASTON	K4AVU	144.61	145.21	N	A
GREENVILLE	WR4ADG	146.01	146.61		
GREENVILLE	W4AZT	146.10	146.70		PA
GREENVILLE	WR4ADG	146.22	146.82		A
GREENVILLE	K4AWB	147.645	147.045	N	P
GREENVILLE	WR4	147.675	147.075		PA
GREENWOOD	WR4AUE	147.765	147.165		PA
GREER	WR4ABG	146.34	146.94	N	T
LANCASTER	WR4ABM	146.10	146.70		PA
LAURENS	WR4AZM	146.25	146.85		
LITTLE MT	K4AVU	147.81	147.21	N	C
LONG MT	WA4JRJ	147.87	147.27		
MARION	WA4YLT	146.40	147.00		
MYRTLE BEACH	WR4AXC	146.01	146.61	N	
N. AUGUSTA	WR4ABB	146.13	146.73		
N. AUGUSTA	WR4ALS	147.93	147.33	N	
ORANGEBURG	WR4AQY	147.69	147.09		PA
PICKENS	WR4ADP	146.40	147.00		
ROCK HILL	WR4AJO	146.43	147.03		A
SAVANNAH (GA)	W4HBB	146.28	146.88		
SAVANNAH (GA)	W4HBB	146.37	146.97		A
SPARTANBURG	WR4BDT	147.69	147.09		PA
SUMMERVILLE	WR4BCH	146.10	146.70		A
SUMMERVILLE	WR4	146.25	146.85	N	C
SUMTER	WR4AOI	146.04	146.64	N	
SUMTER	WR4AOI	147.615	146.015	N	P
SUMTER/SHAW	WR4AUS	147.66	147.06		A
TOCCOA (GA)	WR4AHB	146.19	146.79		
WHITE HALL	WR4AQL	146.31	146.91		

SIX METERS

COLUMBIA	WR4	52.05	53.05	N	

220 MHZ

COLUMBIA	WB4URY	222.30	223.90		
GREENVILLE	W4AZT	222.30	223.90		C
GREENVILLE	W4FHJ	222.46	224.06	N	C
GREER	WR4	222.38	223.98	N	P
SUMTER	WR4AUS	222.34	223.94		C

450 MHZ

CHARLESTON	WR4ASP	449.10	444.509	N	T

VIRGINIA REPEATERS

TWO METERS

ALEXANDRIA	WR4AXB	146.055	146.665	N	
ALEXANDRIA	WR4ATZ	147.915	147.315	M	
ARLINGTON	WR4AQP	146.22	146.82	M	
BARREN SPRINGS	WR4AFQ	146.07	146.67		
BERRYVILLE	WR4APE	147.90	147.30		
BLACKSBURG	WR4AXT	146.31	146.91	N	C
BLACKSBURG	WA4YRJ	146.43	147.03		
BLUEFIELD (WVA)	K8BHG	144.89	145.49		
BLUEFIELD (WVA)	WR4AXS	146.16	146.76		A
BRIARPATCH MT	WR4AHR	147.69	147.09		L
BRUMLEY MT	WR4ATJ	146.01	146.61	N	
BULL RUN/MANNA.	WR4ADZ	146.37	146.97	N	T
CHARLOTTESVILLE	WR4ATL	146.16	146.76		
CHESAPEAKE	WR4ACN	146.19	146.79		
COLE MT	WR4BCI	147.93	147.33	M	
COURTLAND	WR4	147.90	147.30	N	C
COVINGTON	WA4HTI	146.22	146.82	N	
CULPEPPER	WR4BCS	147.72	147.12	M	
DANVILLE	WB4GJG	146.325	146.925		
DANVILLE	WR4AHG	147.945	147.345	N	
DUBLIN	WR4AFQ	147.78	147.18	N	C
FAIRFAX	WR4AAD	146.19	146.79		P/
FARMVILLE	WR4ASW	146.31	146.91		
FOREST	WB4JBW	147.705	147.105	N	CF
FOREST/LYNCHBRG	WR4ADY	146.16	146.76		A
FORT LEA	WR4BOX	147.78	147.18	N	
FRANKLIN	WR4	147.90	147.30		
GALAX	WR4AHR	146.34	146.94		C
GRUNDY	WR4	147.90	147.30	N	A
GUM SPRING	WR4BBI	147.87	147.27		
HAMPTON	WR4ALW	146.13	146.73		
HAMPTON	WR4AFT	146.34	146.94	M	T
HAMPTON	WA4JRV	146.43	147.03	N	
HARRISONBURG	WR4ATG	146.025	146.625	N	
HIGH KNOB	WR4	147.81	147.21	N	C
KILMARNOCK	WA4UAF	147.93	147.33	N	C
LEXINGTON	WR4	146.07	146.67	N	P
LYNCHBURG	WR4AXO	146.01	146.61	N	
MARTINSVILLE	WB4HAD	147.885	147.285		
MCCLEAN	WR4	146.085	146.685	N	
MCLEAN	WR4APC	147.81	147.21	N	A
NORFOLK	WR4ANT	146.10	146.70	N	
PETERSBURG	WR4BDX	147.78	147.18		A
PETERSBURG	W4LGG	147.99	147.39		
PULASKI	WR4	147.78	147.18	N	
RICHMOND	WR4BBZ	146.28	146.88		PA
RICHMOND	WR4ADO	146.34	146.94		T
ROANOKE	WR4AMQ	146.13	146.73	N	C
ROANOKE	WR4AHT	146.34	146.94	N	
ROANOKE	WR4AFY	146.385	146.985		
ROANOKE/SALEM	WR4AFE	146.28	146.88		L
SALEM	WR4	147.87	147.27	N	C
SALEM	WR4	147.975	147.375	N	C
SALUDA	WA4UAF	147.93	147.33	N	
SOUTH BOSTON	WR4AYU	146.46	147.06	N	
SOUTH HILL	WR4BBU	147.84	147.24		
STAUNTON	WR4ACL	146.34	146.94	N	
SUFFOLK	WR4AKS	146.40	147.00		A
TAZEWELL	WA4QKH	147.75	147.15	N	
TYSONS CORNER	K4VYN	146.31	146.91		PA
VIRGINIA BEACH	WR4AAC	146.37	146.97		PA
WHITE OAK MT	WR4BDN	146.10	146.70		
WILLIAMSBURG	W4NTG	146.07	146.67	N	
WINCHESTER	WR4AGT	146.22	146.82		
WISE	K4AXO	147.81	147.21	N	A
WOODBRIDGE	WR4AII	147.84	147.24	N	A

SIX METERS

ABINGTON	WR4ATJ	52.01	53.01	N	L
CHARLOTTESVILLE	WR4AYG	52.76	53.525	N	
LEXINGTON	WR4BCI	52.01	53.01	N	
NORFOLK	WR4ATK	52.525	53.525		
PETERSBURG	W4LGG	52.55	53.55	N	C

220 MHZ

TYSONS CORNER	K4GCM	222.34	223.94		

450 MHZ

ALEXANDRIA	WR4AAG	439.25	427.25	N	V
ALEXANDRIA	WR4ANC	442.05	447.05	N	
CHARLOTTESVILLE	WR4AYG	444.25	449.25	N	
FT. BELVOIR	WR4ATJ	444.125	449.125	N	
LYNCHBURG	WB4IUS	449.50	444.50		
PARIS	WR4ANJ	444.80	449.80	N	
ROANOKE	WR4AFY	442.50	447.50		L
TYSONS CORNER	WR4ABR	444.75	449.75		
WOODBRIDGE	WR4AII	444.90	449.90	N	

TENNESSEE REPEATERS

TWO METERS

ALAMO	WR4API	147.135	147.735	W
ALCOA	WR4APM	146.25	146.85	E
ALTAMONT	WR4AWN	146.37	146.97	CN
BRISTOL	WR4AFZ	146.28	146.88	NE
BRISTOL	WR4AXQ	147.60	147.00	NE
BROWNSVILLE	WR4ASI	146.655	146.055	SW
CHATTANOGA	WR4ADA	146.19	146.79	SE
CHATTANOGA	WR4AFS	147.60	147.00	SE
CHATTANOGA	WR4AGW	146.01	146.61	SE
CLARKSVILLE	WR4AOO	147.60	147.00	CN
CLEVELAND	WR4AQV	147.78	147.18	SE
COLUMBIA	WR4AIX	147.72	147.12	CN
COOKEVILLE	WB4QSJ	147.81	147.21	E
COOKEVILLE	WR4ANW	146.07	146.67	E
COVINGTON	WR4BBC	147.93	147.33	SW
CROSSVILLE	WR4	147.93	147.33	E
DAYTON	N4OU	147.99	147.39	SE
FAYETTEVILLE	WR4BAQ	147.63	147.03	S
GALLITIN	WR4BCX	147.84	147.24	CN
GREENVILLE	WA4LYF	147.66	147.06	NE
GREENVILLE	WR4AHP	146.10	146.70	E
HEHENWALD	WR4	147.93	147.33	W
HENDERSONVILLE	W4KKO	147.99	147.39	CN
JACKSON	WR4AQN	147.81	147.21	W
JOHNSON CITY*	WA4DIU	147.87	147.27	NE
JOHNSON CITY*	WR4AIP	146.19	146.79	NE
KINGSPORT	WR4ADO	146.16	146.76	NE
KINGSPORT	WR4AGE	146.37	146.97	NE
KNOXVILLE	WR4ADF	146.34	146.94	E
KNOXVILLE	WR4AHF	146.40	147.54	E
KNOXVILLE	WR4AIA	146.01	146.61	E
KNOXVILLE	WR4APU	146.13	146.73	E
LAFOLLETTE	WR4AKW	146.07	146.67	E
LEBANON	WR4BBM	146.13	146.73	CN
MADISON	WR4AKN	146.04	146.64	CN
MANCHESTER	WR4ACI	146.10	146.70	CN
MEDINA	K4BEZ	146.37	146.97	W
MEMPHIS	WA4ETE	146.28	146.88	SW
MEMPHIS	WB4DAZ	147.72	147.12	SW
MEMPHIS	WR4	147.78	147.17	SW
MEMPHIS	WR4	144.89	145.49	SW
MEMPHIS	WR4ABS	146.19	147.51	SW
MEMPHIS	WR4AEX	146.34	146.94	SW
MEMPHIS	WR4AGR	146.13	146.73	SW
MEMPHIS	WR4AHK	146.01	147.51	SW
MEMPHIS	WR4AHO	146.22	146.82	SW
MEMPHIS	WR4AOG	146.10	146.70	SW
MEMPHIS	WR4ASF	147.90	147.30	SW
MEMPHIS	WR4ASR	147.99	147.39	SW
MEMPHIS	WR4ATA	147.96	147.36	SW
MEMPHIS	WR4AWT	147.67	147.09	SW
MEMPHIS	WR4AXF	146.46	147.06	SW
MEMPHIS	WR4AYR	146.04	146.64	SW
MEMPHIS	WR4AZC	147.87	147.27	SW
MEMPHIS	WR4AZK	146.25	146.85	SW
MEMPHIS	WR4BCU	147.63	147.03	SW
MEMPHIS	WR4BLJ	146.40	147.00	SW
MEMPHIS	WR5AII	147.75	147.15	SW
NASHVILLE	WB4HFS	147.78	147.18	CN
NASHVILLE	WB4ZSA	147.90	147.30	CN
NASHVILLE	WR4	147.975	147.375	CN
NASHVILLE	WR4ABV	146.25	146.85	CN
NASHVILLE	WR4ACS	146.16	146.76	CN
NASHVILLE	WR4ACY	146.28	146.88	CN
NASHVILLE	WR4AFA	146.19	146.79	CN
NASHVILLE	WR4AGX	146.34	146.94	CN
NASHVILLE	WR4AKN	146.07	146.67	CN
NASHVILLE	WR4AKN	147.96	147.36	CN
NASHVILLE	WR4AUX	147.75	147.15	CN
NASHVILLE	WR4AWV	146.01	146.61	CN
NASHVILLE	WR4BBT	147.945	147.345	CN
OAK RIDGE	K4EAJ	147.72	147.12	E
OAK RIDGE	WR4ADQ	144.85	145.45	E
OAK RIDGE	WR4AGJ	146.22	146.82	E
OAK RIDGE	WR4AGL	146.28	146.88	E
PARIS	WR4AYM	147.96	147.36	NW
SAVANNAH	WA4HGN	146.31	146.91	W
SHELBYVILLE	WR4AQM	147.66	147.06	S
SHORT MT.	WR4AZF	146.31	146.91	CN
SPARTA	W4BSA	147.69	147.09	CN
SPRINGFIELD	WR4AGH	147.63	147.03	N
UNION CITY	K4MVE	146.655	146.055	NW
UNION CITY	WR4AUQ	146.10	146.70	NW
WAVERLY	WR4AYB	146.685	146.085	W
WINCHESTER	WR4AFH	146.22	146.82	S

(Index Ctsy of David Wolfe, WA4VVX, Jackson, Tennessee)

WEST VIRGINIA REPEATERS

TWO METERS

ALDERSON	WR8AKZ	146.13	146.73
BECKLEY	WR8ACO	146.34	146.94
BECKLEY	WR8AKZ	146.25	146.85
BLUEFIELD*	K8BHG	144.89	145.49
BLUEFIELD*	WR4AXS	146.16	146.76
BRIDGEPORT	WR8ALC	147.72	147.12
BUCKHANNON	K8WYH	146.25	146.85
CHARLESTON	WR8ACD	146.28	146.88
CHARLESTON	WR8AER	146.22	146.82
COTTAGEVILLE	WR8AKV	146.31	146.91
ELKINS	WR8AOH	146.04	146.64
FAIRMONT	W8JM	146.31	146.91
HUNTINGTON	WR8AFE	146.04	146.64
HUNTINGTON	WR8AGH	146.16	146.76
LOGAN	WR8ADD	146.37	146.97
MCMECHEN	W8WUX	146.31	146.91
MORGANTON	WR8ABM	146.16	146.76
MULLINS	WR8AKX	147.63	147.03
NEW MARTINSVLLE	WR8ABY	146.34	146.94
PARKERSBURG	WR8	147.96	147.36
PARKERSBURG	WR8ACJ	146.37	146.97
PARSONS	WR8AGU	146.13	146.73
PENNSBORO	WR8	147.90	147.30
RAVENSWOOD	WR8	146.07	146.67
RICHWOOD	K8VKB	146.34	149.34
ST ALBANS	WR8AJS	146.40	147.00
TERRA ALTA	WR8AEY	147.60	147.00
WEIRTON	WR8AQA	146.34	146.94

(Index Ctsy of: Steve Rice, K8SR, Dunbar, West Virginia)

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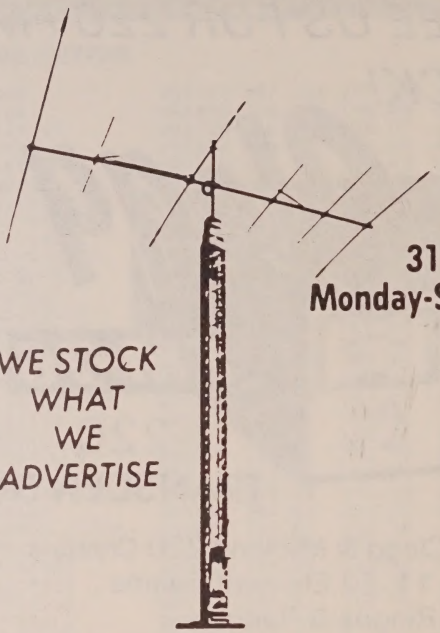

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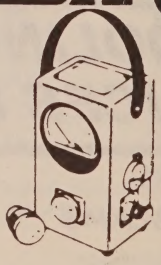


ELEMENTS
2-30 MHZ
25-1000 MHZ

CLUB MEETING CALENDAR

NORTH CAROLINA

ASHEVILLE - W. Carolina ARS-Bus. 1st Thur. 1900-conf. ru. Health & Soc. Bvc. Bldg. Dinner, 2nd Monday, 1900 - Hungry Bull, Patton Ave.
BENSON - Johnson ARS 3rd Thur. 1930 at 50-210 Fire Station
BURLINGTON - Alamance ARC 2nd & 4th Monday 1930, at 230 E. Summit Ave.
BURLINGTON - Alamance Repeater Assoc. Inc. Last Sat. 1900 at B & J Cafeteria
CARY - Cary ARC 4th Thur. 1930 at White Plains Methodist Church
CHARLOTTE - Mecklenburg ARS Last Tue. 1930-Red Cross Bldg on Park Rd.
CHARLOTTE - Charlotte RC 1st Thur. 19 - Club Bldg. - WSOC-TV Tryon St.
CHARLOTTE - Friday Lunch Group Fri. 1200 - Mediterranean Rest. on Independence Blvd.
CONCORD - Cabarrus ARS, 3rd Mon., 1930, Kimball Memorial Lutheran Church, Aux. Bldg., Kannapolis
DURHAM - Durham FM Assoc. - 2nd Tue. 1800 - Picadilly Cafeteria, S. Sq. S.S.
DURHAM - Triangle Radio Alert Network - 3rd Thurs. 1800 Picadilly Cafeteria, S.Sq. S.S.
EDEN/REIDSVILLE - Rockingham County ARC 1st & 3rd Mon., 1900 Wentworth Courthouse
FAYETTEVILLE - Cape Fear ARS 3rd Mon. 1900 - Methodist College,
FRANKLIN - Franklin ARC, 2nd Thur. 1900 - Macon Savings & Loan Assn.
GASTONIA - Gaston Cty. ARS - 1st Mon. 1900 - Community room at Eastridge Mall
GREENVILLE - Brightleaf ARC - 2nd Tues. 2000 - Planters Nat. Bank, downtown.
GREENSBORO - Greensboro ARA, 4th Mon., 1830, Founders Hall, Guilford College
GREENSBORO - Greensboro RC Fri. 1930-Club House near Friendship Airport
GREENSBORO - Ladies in Amateur Radio Soc. 1900 2nd Tues., Mbrs. Home, 4th Tues, Apple House Cafe
HIGH POINT - High Point ARC Tue. 1930 - Old Mill Rd.
JACKSONVILLE - Onslow ARC 2nd Sat. 1000 - Howard Johnsons Restaurant
KANNAPOLIS - Cabarrus County ARS 3rd Mon. 1930, Activity Bldg., Kimball Memorial Lutheran Church
LAURINBURG - Scotland County ARS 1st Wed. - Cablevision Office
LEXINGTON - Healing Springs Mt. VHF Soc. Last Mon. 1930 - Burlington House Furniture Co., Personnel Office
LUMBERTON - Lumberton ARC, 3rd Thu. Robeson County Public Library at 1930
MORGANTON - Morganton ARC, 1st Mon., 1930, W. Piedmont Community College
RALEIGH - Raleigh ARS - 1st Wed. 1930 - W. Community Room, Crabtree Valley Mall
ROCKY MOUNT - Rocky Mount ARS, 3rd Thurs., 1900 Farmer's Restaurant in Sharpsburg
SALISBURY - Rowan ARS & 4th Mon. 2000-Salisbury City Hall, Main Street
SHELBY - Shelby Radio Club 2nd Mon. 1830 Hungry Bull Restaurant, Dutch Supper
SILVA - Smokey Mt. ARC, 2nd Tue. 1900 - Southwest Tech. Institute
STATESVILLE - Iredell City ARS - 2nd Thurs. 1900 - Hall of Justice, Water & Tradd Sts.
WILMINGTON - Wilmington VHF Assn., 2nd Tue. of Jan. and all odd months, at Caro. Savings & Loan; Even Months, Social Meet at New Hanover Mem. Hosp. Ed. Bldg.
WINSTON-SALEM - Forsyth Amateur Radio Club, 2nd Friday - Nature Science Center

SOUTH CAROLINA

CALENDAR Continued on Next Page

ANDERSON - Anderson RC 4th Thur. 1930 - Anderson County Library
CHARLESTON - Holiday VHF Soc. 2nd Wed. 2930 - Pinehaven Shopping Center Meeting Room
CHARLESTON - Charleston ARS, Inc. - Home Federal Meeting Room, Ashley Plaza S.S.
CHARLESTON - Trident ARC, 3rd Wed. 1930 - Park Cir. Presy. Church.
CHERAW - Chesterfield Cty. ARS. 3rd Tue. 1900 Chesterfield Tech.
CLEMSON - Clemson Univ. ARC - (During school year - posted prior to meeting)
COLUMBIA - Carolina Repeater Soc. - 1st Mon. 1930 - S.C. Elec. and Gas Bldg.
FLORENCE - Florence ARC, Shoneys, 1st Tues. 1930
FLORENCE - Florence FM Repeater Assn. 3rd Mon. 1930 Florence Darlington Technical Center
GREER - Greer ARC 1st Mon. 1930 Meeting Location announced monthly,
GREENVILLE - Blue Ridge ARS 1st Tue. 1930 Red Cross Building 3rd Tues. Dinner.
GREENVILLE - The Dutch Lunch Club - Mond. S & S Cafeteria at 1245.
GREENWOOD - Piedmont Tec ARC, 1st Mon. 1930 at Piedmont Tec.
KEEOWEE - Keeowee, Toxaway ARC, 3rd Tues. at Keeowee Toxaway Vistors Center
LANCASTER - Lancaster Cty. ARC, 3rd Thurs. 1930, at Standard S & L. Hywy 9 bypass.
LAURENS - Caro. Computer and ARA 2nd & 4th Friday 1930 - Heritage Federal Savings and Loan Building
ORANGEBURG - Orangeburg ARC - 2nd Thur. 1930 - Quincy's Fam. Steak House
SUMTER - Sumter Repeater Assn. 3rd Mon. 2000 City/County Office Building Conference Room
WALTERBORO - Coastal Amateur Radio Assn. 2nd Sat. 1900, meeting announced on 31/91 net.

VIRGINIA CLUB MEETING CALENDAR

ALBERTA - Southern Piedmont ARC - 3rd Thurs. 1900, Southside Va. Comm. Col.
BLUEFIELD - East River RC, 1st & 3rd Monday, 1930 at Commercial Bank, Bluefield.
CHARLOTTESVILLE - University of Virginia ARC every other Thurs., 1930 Thornton Hall, W4UVA
CHARLOTTESVIOLLE - Albemarle ARC 2nd Wed. 1930 at City Courthouse on 4th Street NE, WA4TFZ
COVINGTON - VHF Communications Assn. - 2nd Wed. 1930 at different mbrs. homes
DANVILLE - Danville ARS, 1st & 3rd Friday, 1930 Danville Comm. Col.
FARMVILLE - Southside ARS, 1st Thursday 1930, Hampton-Sydney Col. Farmville, Virginia
LYNCHBURG - Lynchburg ARC 2nd Friday 2000 at Beulah Baptist Church, Leesville Road, K4HEX
MARTINSVILLE - Patrick Henry ARA, 3rd Tues., 1930, 1st National Bank of Martinsville and Henry Ctr.
NEWPORT NEWS - SPARC 1st & 3rd Wed. 1930 at Vepco Building in Hampton,
NORFOLK - Hampton Roads Radio Assn., 2nd Thurs., 2000 Larchmont Library, Hampton Blvd.
NORFOLK - Tidewater ARC, 2nd & 4th Sat., 1000, Fort Norfolk, Hampton Blvd.
PETERSBURG - Crater ARS - 4th Wed. 1930 John Tyler Community College
PORTSMOUTH - Portsmouth ARC, 2nd and 4th Thurs. 432 Broad Street
RICHMOND - (RATS) 1st & 3rd Fri. 1930 at the stone house in Forrest Hill Park,
ROANOKE - Roa. Valley ARC 2nd & 4th Fri., 2000 - Colonial Ave. Presby. Church.
VIRGINIA BEACH - Virginia Beach ARC, 1st Thur. 1900 at Virginia Beach Recreation Center.
WINCHESTER - Shenandoah Valley ARC 1st/3rd Fri. 2000 Club Building on Grace Street.

ASSOCIATE MEMBERSHIP CONTINUES RAPID GROWTH

- by Lindsay Cleveland, W4IZI
Assoc. Membership Chairman

Hello again to all the Associate Members. This has been quite a year for membership growth. I sometimes think there are those who are trying to see how busy they can keep me by joining up all their friends and sending in more memberships. Last year at this time we had 1370 Associates and now are up to 2200, over 800 new members! The "challenge" that Wayne, K4MOB made in the February issue about getting a friend to join has resulted in 90 new members, 35 from N.C., 23 from Va., 21 from S.C., 5 from Tenn., and a few from outlying states including one from Mexico! There were porobably more who joined due to the encouragement of others, but did so independantly or at the hamfests, so the actual count is likely higher.

Another source of memberships has been the various delaers in the area. I've received over 30 applications ith a dealer's name stamped on it (Home-Tronics, Telcon, Williams, etc.). Our Associate Membership committee member in S.C. (Lane, WA4ZQQ) has an interesting approach; when someone buys a VHFUHF rig, he makes a CVRA membership part of the "deal".

When the Fayetteville, N.C. hamfest group was mailing out flyers to all the area hams from their various mailing lists, they inserted a CVRA application blank. In the six weeks since that mailing, we have received 130 of those yellow applications, even from some old-time hams I haven't heard from since I worked AM on 75 in 1961!

We have another member for the Associate membership committee: Ann Young of Burlington, N.C. She has a scanner and keeps good track of the local hams even if she has to wait until her OM (Hugh, N4ARY) comes home to talk to us. She took pity on me and offered to help with the "office work", and I took her up on her kind offer before she had a chance to think it over!

Just to show how membership is distributed: we have 1360 Associates in N.C., 350 in S.C., 365 in Va., and 125 in other states. With the hustling being done by the new Assistant Directors in Va. and S.C., the gap between N.C. and the other states is starting to close.

Since this association was begun in 1971, Associate membership has been $2.00/year. In the past seven years, the Journal has changed from a Mimeographed hand-typed 3-page newsletter to the professionally-printed magazine it has become. Then too, the SCOPE has expanded from the small area it covered to today's range of three states and adjoining regions and has become a natinally-.. recognized publication. In all this time, while paper and printing and postage went up and up, the membership rate has been held at the original $2.00. But now the time has come to bow to the inevitable and increase our rates to $3.00/year effective January 1979. However, we want to give everyone an opportunity to renew now (in advance of the increase) at the $2.00 rate (maximum of $6.00, 3 years). Just use the application blank in this issue and check the "Renew" slot. And if you have a friend who has been putting off joining, maybe now is the time to give him a "prod" before the rates go up.

That's all for now. Let's hope this winter isn't too rough AND WE DON'T HAVE TO BE CALLED OUT FOR ICE STORMS AND SUCH. Best wishes to all.

TECHNICAL TIP—Powering up and down, voltage transients, and heat cause the majority of electronic component failures.

VHF NET REGISTER (Local Times Indicated)

TWO METERS - FM

ANDERSON SC	37/97	WR4AIO	ANDERSON RADIO CLUB NET	DAILY	2000
ASHEVILLE NC	16/76	WR4AEV	WESTERN NORTH CAROLINA TFC NET	TUE	2030
BENSON NC	87/27	WR4ARL	JOHNSON ARS NET	DAILY	1930
BLUEFIELD VA	4.89/5.49	K8BHG	EAST RIVER RC NET	WED	2030
BURLINGTON NC	07/67	WR4AKY	ALAMANCE COUNTY ARES NET	MF	2100
CATAWBA COUNTY NC	82/82		CATAWBA COUNTY RACES NET	MON	1900
CHARLOTTE NC	34/94	WR4AEU	METROLINA 2-METER EMERG. NET	DAILY	2100
CHERAW SC	735/135	WD4HEH	CHESTERFIELD COUNTY ARS NET	TUE	2030
DANVILLE VA	10/70	WR4BDN	LAST CAPITOL SERVICE NET	TTHSN	2030
DORCHESTER SC	78/18	W4NAT	DORCHESTER AREC/RACES NET	1ST M	
DURHAM NC	34/94	WR4BEK	TRIANGLE RADIO ALERT NET	DAILY	2030
DURHAM NC	34/94	WR4BEK	POSSUM TROT NET	MF	0630
FAYETTEVILLE NC	31/91	WR4ANN	POSSUM TROT NET	MF	0630
FAYETTEVILLE NC	31/91	WR4ANN	CAPE FEAR ARS NET	DAILY	1900
FLORENCE SC	37/97	WR4AGM	FLORENCE 2-METER NET	MON	2000
GREENSBORO NC	16/76	WR4AOD	CVRA INFORMATION NET	WED	2100
GREENSBORO NC	72/12	WR4ANP	GUILFORD COUNTY EMERG. NET	THUR	2100
GREENSBORO NC	01/61	K4SNI	PIEDMONT TFC. & TRAINING NET	MWF	2030
GREENVILLE NC	52/52		BRIGHTLEAF ARS NET	TUE	2100
GREENVILLE SC	01/61	WR4ADG	BLUE RIDGE ARPSC NET	TUE	2100
GREENWOOD SC	765/165	WR4AEU	ABBEVILLE-GREENWOOD EMERG. NET	TUE	2200
GRIFTON NC	16/76	WR4ABP	ENC EMERGENCY NET	THU	2000
LAURENS SC	25/85	WR4AZM	LAURENS CITY ARES NET	MF	2030
LAURINBURG NC	025/625	WR4AOX	SAND HILLS EMERGENCY NET	DAILY	1930
LUMBERTON NC	96/36	WR4BDQ	LUMBERTON ARC NET	MF	2030
LYNCHBURG VA	01/61	WR4AXO	LYNCHBURG TWO METER FM NET	TUE	1900
MORGANTON NC	75/15	WR4AQI	W. PIEDMONT VHF NET	WED	2100
MYRTLE BEACH SC	01/61	WR4AXC	GRAND STRAND 2-METER NET	WED	2100
ORANGEBURG SC	69/09	WR4AQY	VHF NET	TUE	1900
RALEIGH NC	04/64	WR4ACF	RARS NET	MTTHF	2000
REIDSVILLE NC	25/85	K4YFT	ROCKINGHAM CTY. ARC NET	TUE	2100
ROANOKE VA	385/985	WR4AFY	ROANOKE VALLEY ARC NET	WED	2000
ROCKY MOUNT NC	71/12	WR4ADN	ROCKY MOUNT ARC	THU	2030
SALISBURY NC	13/73	WR4AAA	CENT. NORTH CAROLINA TFC. NET	DAILY	2200
SUMTER SC	04/64	WR4AOI	SUMTER RPTR. ASSN 2-METER NET	MON	2130
TAZEWELL VA	75/15	WA4QKH	TRI-COUNTY 2-METER NET	SUN	2000
VIRGINIA BEACH VA	37/97	WR4AAC	VIRGINIA BEACH AREC NET	WED	2000
WHITE HALL SC	31/91	WR4AOL	COSTAL ARA 2-METER NET	THU	2100
WINCHESTER VA	22/82	WR4AGT	SHENANDOAH VALLEY SERVICE NET	DAILY	1915
WINSTON-SALEM NC	04/64	WR4ARD	FORSYTH COUNTY AREC/RACES NET	WED	2100

1½ Meters (220 Mhz) - FM

HILLSBOROUGH NC	2.34/3.94	WR4AGC	PIEDMONT 220 NET	TTH	2100
SAURATOWN MT NC	3.28/4.88	WR4AOW	CVRA INFORMATION NET	WED	2030

TWO METERS - SSB/CW/AM

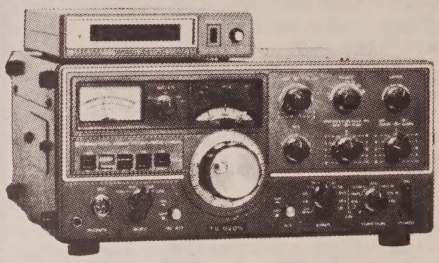
CINCINNATI OH	145.02	MIDWESTERN SSB NET	STTH	2100
GREENSBORO NC	144.25	NORTH CAROLINA S.W.O.T.	TUE	2100
GREENVILLE SC	144.25	SOUTH CAROLINA S.L.O.T.	M-TH	2100
NORFOLK VA	145.80	HAMPTON ROADS EMERG. NET (AM)	MON	2000
WASHINGTON DC	145.10	MID-ATLANTIC 2-METER NET	WED	2100

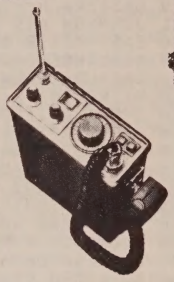
SIX METERS

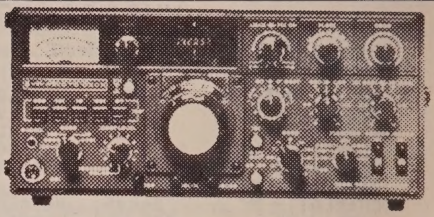
CHARLOTTE NC	50.40	CHARLOTTE HORNET NET (AM)	SUN	2100
CLEMSON SC	50.125	DIXIE NET (SSB)	WED	2100
GLENDALE SPGS. NC	50.12	NORTH CAR. 6-METER NET (SSB)	SUN	0900
RICHMOND VA	50.25	CENTRAL VIRGINIA NET (AM)	DAILY	1900

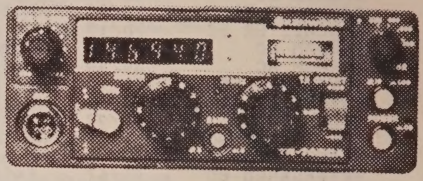
NET MANAGERS; Be sure to Give the CVRA a Plug. Encourage net checkins to Join the CVRA now, and receive the Journal. Thanks! Are there any changes to your net listing above? Send them to us for correction.

KENWOOD









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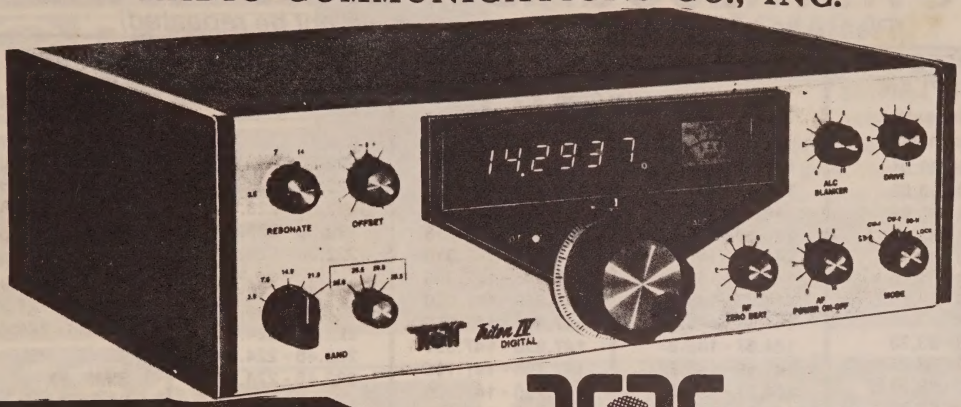

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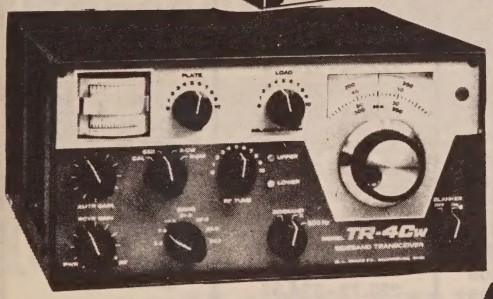

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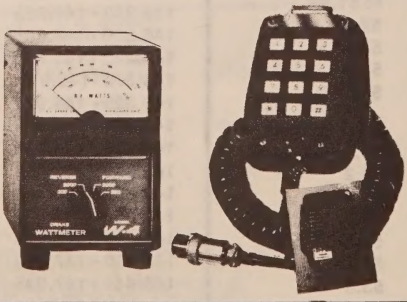

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Roanoke, Virginia 24016
Area 703-342-8513

CVRA RECOGNIZED BAND PLANS

(Please keep this page for future use - it will not be repeated)

6 METER BANDPLAN

33 Repeater Channels

52.01 - 53.01
52.03 - 53.03
52.05 - 53.05
52.07 - 53.07
52.13 - 53.13
52.15 - 53.13
52.15 - 53.15
52.17 - 53.17
52.23 - 53.23
52.25 - 53.25
52.27 - 53.27
52.33 - 53.33
52.35 - 53.35
52.37 - 53.37
52.39 - 53.39
52.41 - 53.41
52.43 - 53.43
52.45 - 53.45
52.47 - 53.47
52.55 - 53.55
52.57 - 53.57
52.63 - 53.63
52.65 - 53.65
52.67 - 53.67
52.73 - 53.73
52.75 - 53.75
52.77 - 53.77
52.83 - 53.83
52.85 - 53.85
52.87 - 53.87
52.93 - 53.93
52.95 - 53.95
52.97 - 53.97
52.99 - 53.99

SIMPLEX
51.51
51.53 etc.
to 51.99
52.29
52.49
52.51
52.525

RADIO CONTROL
53.1
53.2
53.4
53.5
53.6
53.7
53.8

CVRA 2-METER BANDPLAN

Repeater Channels

144.51 - 145.11
144.53 - 145.13
144.55 - 145.15
144.57 - 145.17
144.59 - 145.19
144.61 - 145.21
144.63 - 145.23
144.65 - 145.25
144.67 - 145.27
144.69 - 145.29
144.71 - 145.31
144.73 - 145.33
144.75 - 145.35
144.77 - 145.37
144.79 - 145.39
144.81 - 145.41
144.83 - 145.43
144.85 - 145.45
144.87 - 145.47
144.89 - 145.49

146.010 - 146.610
146.025 - 146.625
146.040 - 146.640
146.055 - 146.655
146.070 - 146.670
146.085 - 146.685
146.100 - 146.700
146.115 - 146.715
146.130 - 146.730
146.145 - 146.745
146.160 - 146.760
146.175 - 146.775
146.190 - 146.790
146.205 - 146.805
146.220 - 146.820
146.235 - 146.835
146.250 - 146.850
146.265 - 146.865
146.280 - 146.880
146.295 - 146.895
146.310 -146.910
146.325 - 146.925
146.340 - 146.940
146.355 - 146.955
146.370 - 146.970
146.385 - 146.985
146.400 - 147.000
146.415 - 147.015
146.430 - 147.030
146.445 - 147.045

146.460 - 147.060
146.475 - 147.075
147.600 - 147.000
147.615 - 147.015
147.630 - 147.030
147.645 - 147.045
147.660 - 147.060
147.675 - 147.075
147.690 - 147.090
147.705 - 147.105
147.720 - 147.120
147.735 - 147.135
147.750 - 147.150
147.765 - 147.165
147.780 - 147.180
147.795 - 147.195
147.810 - 147.210
147.825 - 147.225
147.840 - 147.240
147.855 - 147.255
147.870 - 147.270
147.885 - 147.285
147.900 - 147.300
147.915 - 147.315
147.930 - 147.330
147.945 - 147.345
147.960 - 147.360
147.975 - 147.375
147.990 - 147.390

144.0 to 144.5 SSB
144.6 to 145.1 SSB
145.5 to 146.0 SSB

Satellite
145.85 to 145.975

SIMPLEX FM

146.49
146.52
146.55
146.58

147.42
147.45
147.48
147.51
147.54
147.57

CVRA 220 MHZ BANDPLAN

55 Repeater Channels

222.30 - 223.90
222.32 - 223.92
222.34 - 223.94
222.36 - 223.96
222.38 - 223.98

222.40 - 224.00
222.42 - 224.02
222.44 - 224.04
222.46 - 224.06
222.48 - 224.08

222.50 - 224.10
222.52 - 224.12
222.54 - 224.14
222.56 - 224.16
222.58 - 224.18

222.60 - 224.20
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222.66 - 224.26
222.68 - 224.28

222.70 - 224.30
222.72 - 224.32
222.74 - 224.34
222.76 - 224.36
222.78 - 224.38

222.80 - 224.40
222.82 - 224.42
222.84 - 224.44
222.86 - 224.46
222.88 - 224.48

222.90 - 224.50
222.92 - 224.52
222.94 - 224.54
222.96 - 224.56
222.98 - 224.58

223.00 - 224.60
223.02 - 224.62
223.04 - 224.64
223.06 - 224.66
223.08 - 224.68

223.10 - 224.70
223.12 - 224.72
223.14 - 224.74
223.16 - 224.76
223.18 - 224.78

223.20 - 224.80
223.22 - 224.82

223.24 - 224.84
223.26 - 224.86
223.28 - 224.88

223.30 - 224.90
223.32 - 224.92
223.34 - 224.94
223.36 - 224.96
223.38 - 224.98

SIMPLEX
24 Channels

223.40
223.42
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223.56
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223.68
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223.72
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223.78
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223.86
223.88

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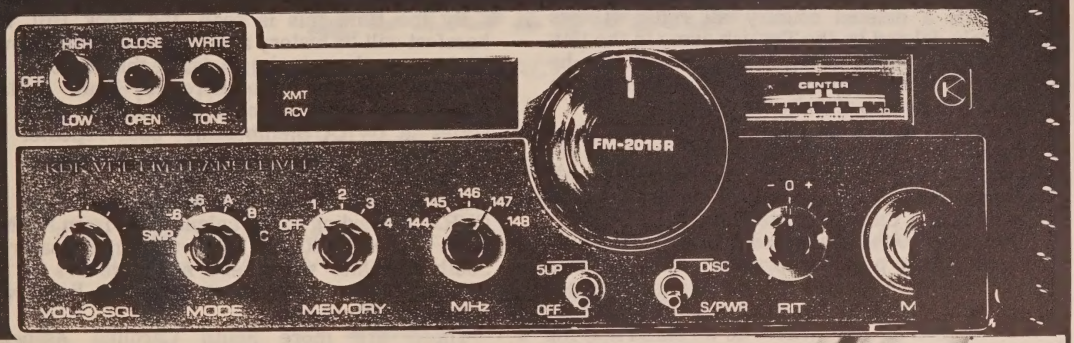

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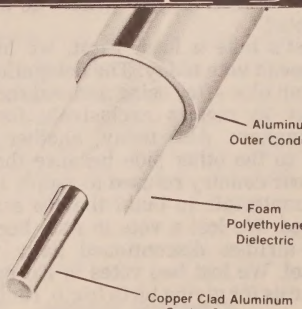
3/4-in. - 40¢/ft.

(RUNS IN EXCESS OF 400 FT. SLIGHTLY HIGHER)



ATTENUATION IN DB PER 100 FT.

	150MHZ	220 MHZ	450 MHZ
RG-8 A/U	2.3 db.	3.2 db.	4.0 db.
1/2'' HARDLINE Velocity 89%	.21 db.	.55 db.	.94 db.
3/4'' HARDLINE Velocity 93%	.105 db.	.225 db.	.470 db.

CONNECTORS AVAILABLE.

LIST OF LENGTHS AVAILABLE UPON REQUEST - 50' TO 1000'

SHIPPED UPS OR MOTOR FREIGHT - FOB KERNERSVILLE

W.A.R.P. '79

— By Mike Williams, WA4JIY

Two men face each other in a small room, sorting out notes hastily taken from the long days activities. Removing his glasses, John leans back in his chair and stretches wearily.

"Well, Bill, what did you find out about that Third World delegation. That little guy running around calling himself a Sheik looked a little weird to me."

"Me too," Bill said. "I decided to check him out and I found out there is no such country in Africa. First, it's not on the D.X.C.C. list. Second, I asked him if he worked c.w. and he answered that it was against his religion to work."

"Maybe it's a deleted country," John said.

"Oh, it's a deleted country all right. It was completely deleted by the Turkish army in the 19th century. What really gave him away was when he offered to trade his conference vote even for an autographed picture of Dolly Parton."

"What did you tell him, Bill?"

"I asked him if he'd settle for Carly Simon. He got impatient and said he was going to vote with all our opponents on the frequency allocation matter. You know, England, Canada, Switzerland."

"Bad news," John exclaimed. "It was bad enough after one of our people imprudently mentioned to one of the Arab delegates that he didn't appreciate those sheiks buying up land in Beverly Hills."

Bill loosened his tie. "Where do we stand now for the vote?"

"Let's take a look. First, we lost one western European vote today. The delegation went with the African bloc after being assured they would be able to get 75 meters exclusively for use by rural winemakers. Also today, another European vote went to the other side because the head delegate said our country refused to supply him with enough raw materials to build the 100 atom bombs they wanted. We lost a vote in Asia because one of the U.S. airlines discontinued daily flights to their capitol. We lost two votes in Europe because they blame us for giving birth to c.b. radio."

"Nothing but bad news," Bill cried.

"There was some good news today. We can pick up a strong African vote if we can get the government to ship them 24 new surface-to-air missles and a flight of F-105s."

"If we lose the vote, how do the ham bands look, John?"

"Well, we lost 160 meters to commercial broadcasting. 40 will be exclusively for propaganda broadcasting. The opinion here is that each country would like to have at least a dozen more multi-megawatt shortwave transmitters by 1985. 20-meters bit the dust because it was considered so good for trans oceanic communications. South America succeeded in getting 15 so they could better coordinate revolutions. They'll probably kick the hams off 10 meters because we aren't using it enough."

"Super bad luck," Bill moaned. "Sounds like ham radio is surely doomed."

"Not at all," John smiled. "We still have 11 meters. Maybe we can get it back on a shared basis if those other fellas will let us use it too."

"Yeh!" Bill smiled. "I can see it all now. I get me a power mic, get me a ground plane and . . ."

"Breaker breaker, one-nine. How 'bout ya DX . . . Come on!"

A FEW COMMENTS FROM THE ASSISTANT S.C. ASSOCIATE MEMBERSHIP REP.

- by Lane Tarelton, WA4ZQQ

By the time this is read, the Rock Hill, S.C. hamfest will be history and the season will be over. We hope you have had a good time this season.

Myself and the State Director, Wade Holland want to see South Carolina surpass the other two states in CVRA membership, both repeater full membership, and associate memberships of our South Carolina Ham friends.

Is your repeater and club associated with the CVRA. According to my calculations from the May issue of the JOURNAL, there were 15 repeaters in South Carolina who were non-members of the CVRA. There are about 45 repeaters listed with more coming everyday.

There are more South Carolina Associate Memberships now than ever before, about 400 by the end of September. We're only slightly behind Virginia, and way behind North Carolina who have 450 and 1500 respectively. Lets see if we can't change the odds somewhat over the next year.

With many more repeaters coming on everyday, our organization (CVRA) helps keep interference to a minimum by coordinating frequencies for these new machines. Our State Director, Wade, W4AZT in Greenville is the man to contact until we get our new State Director in January. Now more than ever, as the band gets more crowded, we have to coordinate. As the CVRA grows, it gains more respect and clout to prevent persons from just randomly putting on a repeater anywhere, on any frequency.

Memberships for full repeater are now $6.00, but will go up to $8.00 in January, with Associate Memberships now $2.00, going to $3.00 in January. You can join or renew for a maximum of 3-years before Jan. 1 and save 30%.

So remember, S.C. saves a buck in associates, or two bucks in full if you join before Jan. 1. If you want to know more about CVRA, call me at (803) 366-7157 and we'll talk about it. Tell your friends, lets push S.C. ahead of the rest of those other States.

TECHNICAL TIP—Don't call a Class C FM amplifier a "linear"–it definitely isn't.

WARNING!

Take this test before buying ham gear

QUESTIONS:

1. AM I DOING BUSINESS WITH A FACTORY AUTHORIZED DEALER OR DISTRIBUTOR?
2. WHAT KIND OF BUSINESS DOES THE STORE ENGAGE IN?
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4. WHAT ABOUT TECHNICAL SUPPORT?
5. DO THE STORE AND ITS PERSONNEL SUPPORT AMATEUR RADIO? ARE THEY ACTIVE HAMS?

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NOW ORDER TOLL FREE!

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803*366*7157 EXIT 66-B OFF I-77

73,

THE GISMO GANG

CVRA, ARRL ROANOKE DISTRICT AGAIN COORDINATE HAMFEST DATES

Participating clubs reporting to the CVRA and to Phil Wicker, W4ACY, Roanoke Division Director, ARRL enabled the CVRA JOURNAL to publish updated and accurate Hamfest dates last year.

As a result clubs were able to choose and coordinate dates which did not conflict with other hamfest dates around the States. We only had one conflict last year, as compared with several the previous year.

Again this year, Phil Wicker has graciously agreed to work with the JOURNAL staff along with the clubs to help keep Hamfest dates available to everyone. The JOURNAL will publish the entire list each issue for the benefit of attending Amateurs, as well as for Clubs still wishing to select an open date.

Your organization can help. As soon as you select the date for your Hamfest, notify Phil Wicker, W4ACY, or Wayne Williams, Editor of the Journal of your date and we'll see that it is available to anyone and everyone.

With more and more hamfest coming each year, conflicts will be more evident unless coordination can be done, so be sure to send in your dates as soon as possible.

We start this issue with the 1979 schedule as we have it thus far. We placed an asterisk beside dates that are confirmed. (Editor)

SOME KIND REFLECTIONS . . .

Continued from Page 1

CVRA. Everyone has assisted in some way. Clubs have mailed out CVRA applications with their Hamfest brochures. Dealers have given away and sold memberships in their stores. Clubs have organized and sent in 100% membership from their organizations. Repeater owners, as well as users have guided newcomers into the CVRA ranks. I could go on and on. Letters to us show much more interest in what the CVRA organization is trying to do. We have more active officers and directors and appointees who want to push forward . . . hard, and make this an organization we can all be proud of.

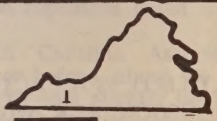
But . . . we can't stop now. We must continue to press onward. Lets make these figures obselete next year. Lets set new records in obtaining new memberships. Each club, each repeater group, each hamfest committee, commit yourselfs to helping the CVRA more than ever in 1979. Issue a challenge to other clubs, other repeaters, OTHER STATES. See who can gain the most in membership this year. I don't have to tell you the rewards. You know what the CVRA stands for. You know what its supposed to do.

Each member, get at least 1 new member next year and lookout, we'll be rolling fast in 1979.

- Wayne C. Williams, K4MOB, Editor

Briarpatch

Amateur Radio Club



cvra REPEATERS

REPEATER
WR4AHR
147.69/09
GALAX, VA.

Presents VIRGINIA - CAROLINA HAMFEST

Sunday - February 4, 1979 8:00 - 4:00

Elkin, North Carolina National Guard Armory
On Old Route 21 - Off Interstate 77

This Fest Formerly Held in Hillsville, Va.
but has been moved to Elkin, North Carolina.

Tickets $1.00 Each
Plenty of room for inside flea market

PRIZES: YAESU FT 227-R Memorizer
Heathkit Electronic Keyer
Larson Mobile 2-Meter Antenna
Portable Television Set

Flea Market Tables - $2.00
Dealer Tables - $10.00
(Tables available at hamfest site-please bring some type protective covering to put under equipment.)

Activities and Interest For Ladies.

Many Door Prizes To Be Given Away Hourly

TALK-IN 147-69/09
146-52/52

BREAKFAST AND LUNCH CONCESSIONS SERVED AT FEST SITE BY LADIES AUXILLARY-BPMARC.

Chairs Available for Rag-Chewing at Fest Site.

FOR INFORMATION ABOUT THE FEST CALL:

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Phil M. Berry N4AKZ - 728-3203 - Hillsville, Va.

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CRYSTALS

MOST REPEATER PAIRS $3.50
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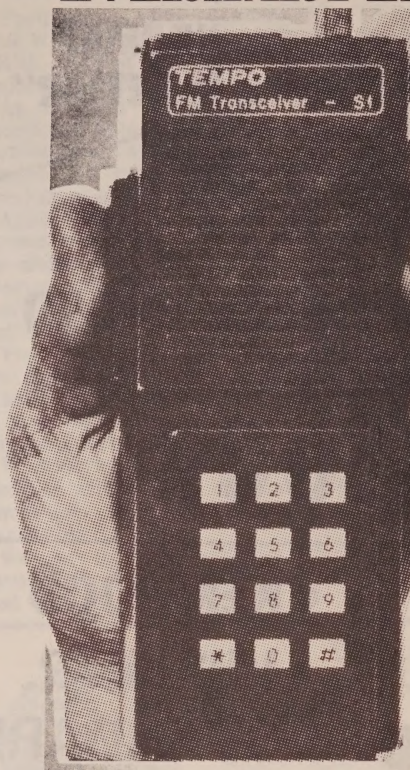
"The Crystal Company"

EVERHART ELECTRONICS CO. HAS



Shown with accessory touch tone pad

800 channels in the palm of your hand

Tempo presents the S1 SYNCOM...the world's first synthesized 800 channel hand held transceiver

This amazing pocket sized radio represents the year's biggest breakthrough in 2-meter communications. Other units that are larger, heavier and are similarly priced can offer only 6 channels. The SYNCOM'S price includes the battery pack, charger, and a telescoping antenna. But, far more important is the 800 channels offered by the S1. The optional touch tone pad shown in the illustration adds greatly to its convenience and we have available a 30 watt solid state power amplifier designed to give the SYNCOM S-1 the flexibility of operating as a mobile and base station as well.

SPECIFICATIONS

Frequency Coverage:	144 to 148 MHz
Channel Spacing:	Every 5 KHz
Power Requirements:	9.6 VDC
Current Drain:	17 ma-standby 400 ma-transmit
Batteries:	Ni-cad battery pack included
Antenna Impedance:	50 ohms
Dimensions:	40 mm x 62 mm x 165 mm (1.6" x 2.5" x 6.5")
RF Output:	Better than 1.5 watts
Sensitivity:	Better than .5 microvolts

SUPPLIED ACCESSORIES

Telescoping whip antenna, ni-cad battery pack, charger.

OPTIONAL ACCESSORIES

Touch tone pad, tone burst generator, CTCSS chips, Rubber flex antenna.

Price . . . $349.00 (or with touch tone pad . . . $399.00)

NOV. Delivery on S-1 and S-30

Order Now to Hold Yours. 50% down.

S-30 AMPLIFIER $89.95

WINTER ICESTORMS? Be Prepared. WINCO PORTABLE AC GENERATORS IN STOCK.

WINTER DX? New Dentron DTR-1 Transceivers - 160 - 10 M

$699.00 AC Spkr / Power Supply $99.50

All Above Prices Subject to Change without Notice.

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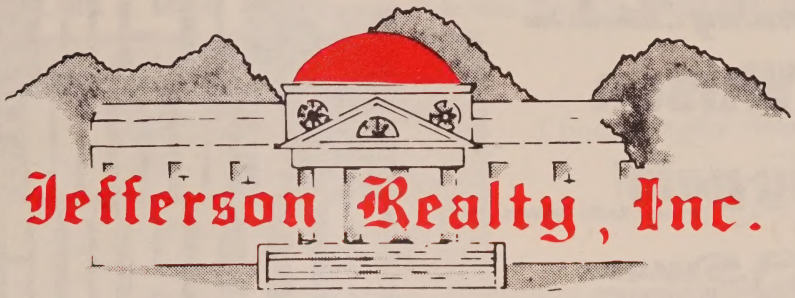

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SPECIAL

CONSOLIDATED TOWER MODEL C-16

SPECIAL

40 FEET	$122.95
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Each Tower includes four or five sections which includes one top weight is approx. 160 lbs. and 200 lbs. respectively.

All orders must be prepaid and shipping will be collect.

OFFER GOOD AS LONG AS CURRENT STOCK LAST,

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We have extra heavy duty clamps that will accept 2¼" OD mast easily. (Only two holes to mount set), also plated to prevent Rust. $27.50.

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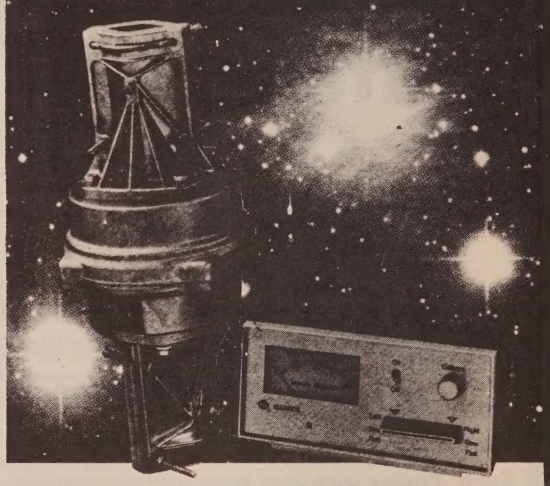
73's Jack, WB4KOH/WR4AWQ

new FROM ALLIANCE!



HD-73 HEAVY-DUTY ROTATOR

with exclusive Dual-Speed Control!

For antennas up to 10.7 sq. ft. of wind load area. Mast support bracket design permits easy centering and offers a positive drive no-slip option. Automatic brake action cushions stops to reduce inertia stresses. Unique control unit features DUAL-SPEED rotation with one five-position switch. SPECIFICATIONS: Max. wind load bending moment—10,000 in.-lbs. (side-thrust overturning); Starting torque — 400 in.-lbs.; Hardened steel drive gears; Bearings — 100-⅜" diameter (hardened); Meter — D'Arsonval, taut band (backlighted). There's much, much more — so get the whole story!

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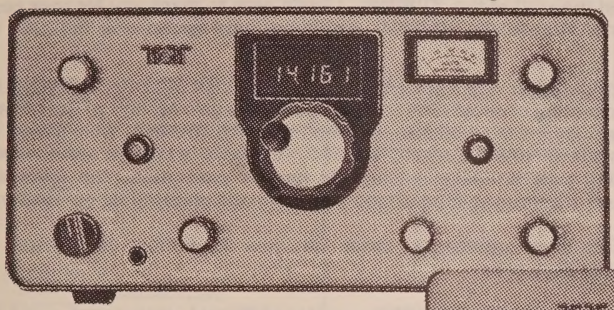
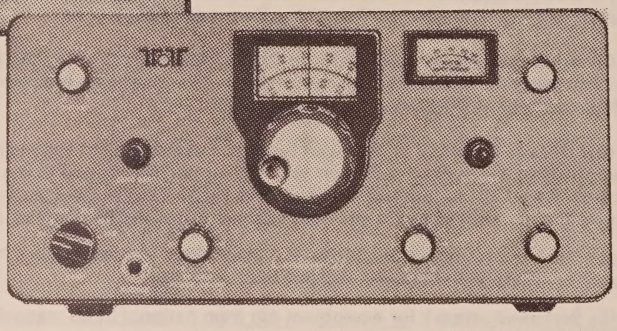
A 70-Watt, 5-Band CW Transceiver That Combines Excellent Performance, Reliability, Simplicity of Operation, and Low Cost.



Choose Digital Readout —

Model 574



Or Regular Dial Readout —

Model 570

- Direct Frequency Readout — Digital or Dial
- Full Break-In
- Full Band Coverage 3.5, 7, 14, 21 MHz Bands, 1 MHz on 28 MHz Band
- Total Solid-State
- Receives CW and SSB
- Receiver Sensitivity 1 μV or less for 10 dB S+N/N
- Offset Receiver Tuning
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Amateur - Commercial Sales and Service

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Chuck Bino,K4CJZ
Sue Bino,WA4IHA

A MESSAGE TO OUR ADVERTISERS

On behalf of the CVRA Board of Directors, and the staff of the JOURNAL, I again wish to thank you for your continued support through advertising. Without your support the JOURNAL would not have grown over the past 18 months as it has.

Due to ever increasing production costs in providing you with a professional looking CVRA JOURNAL, and due to larger JOURNALS and larger press runs, due to doubling of circulation this past year, we again remind of the following regulations concerning advertising. These regulations are made only to keep the CVRA JOURNAL from having to absorb extra typesetting costs and art/camera costs incurred by advertisers who are unable to provide camer-ready copy. Our limited staff prevents us from having time to design ad layouts for any customers. The following suggestions will assist you and the JOURNAL staff in getting your ad to look attractive and pleasing for our readers:

(1) COPY DEADLINE for the JOURNAL is 1 month prior to publication dates. i.e., your deadline is: Jan. 1; April 1; July 1; and October 1 for the Feb., May, Aug., and Nov. issues

(2) Advertising rates quoted are for CAMERA/READY COPY. Typesetting and/or additional camera work required to complete your ad must be charged at the rate supplied by the printer. It is suggested to save money, CONTRACT ads not be changed no often than necessary.

(3) In cases of having an entire ad typeset, customer must furnish the JOURNAL with a neatly drawn layout, represented correct size of ad to be run. Artwork should be clipped to the page with an outline drawn to indicate its position on the ad. Type required to be set should be typed or written legibly. The JOURNAL cannot be responsible for errors in copy and pricing in ads that must be composed by our staff or the printer.

(4) Black cutout type from books and magazines is acceptable if it will fit the space properly. If type must be reduced or enlarged to fit, extra charges must be made.

(5) Screened artwork for equipment cut from national trade magazines is acceptable if in black & white. Color ads will have to be rescreened by our cameras. Keep in mind some loss in reproduction quality will result in both instances. If art will not fit, camera charges will be required to adjust to correct size.

(6) Customer must provide all artwork desiring to run in ad. The JOURNAL does not have a source for obtaining artwork for specific pieces of equipment. Most manufacturers are good sources for artwork, or the national Amateur magazines.

(7) The following price list is in effect as of January 1, 1979. All present contracts will be honored until they expire. New prices cover all advertising not on contract prior to Jan. 1, 1979. JOURNAL advertising prices may be revised without advance notice. All CONTRACT advertisers may be billed quarterly if desired, notify our Sales Manager.

(8) Advertising charges due upon receipt of invoice by Advertiser and past due after 30 days. Invoices due after 90 days will result in refusal to repeat advertising for next issue until account is paid.

CVRA JOURNAL ADVERTISING RATE CARD

(Effective 1-1-79)

	SIZE	PER ISSUE	CONTRACT PER ISSUE
INSIDE FRONT AND BACK COVER	6" x 7½"	$60.00	$55.00
FULL PAGE	6" x 7½"	40.00	35.00
ONE-HALF PAGE	6" x 3¾"	22.50	20.00
ONE-QUARTER PAGE	2⅞" x 3¾"	12.50	10.00
BUSINESS CARDS	Standard Size	9.00/yr. (In Advance)	
CLASSIFIED ADS	(30 word max)	1.75 per ad (In Advance)	
HAMFEST ADS	6" x 7½"	35.00 (In Advance)	

Second Color Ink per ad: $15.00
Total Ad Composition: $15.00 approx.
Artwork reductions/enlargements: $3.75 ea.
Reducing Camera Ready ad to fit specified size: $3.75

—Ken Holliday, WA4DYY
Sales Manager

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Manager

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W4DW WR4ACF 222.04 - 223.64

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MELLOW
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LEE McDANIEL
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ROANOKE, VA. 24002

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AREA CODE 703

channel 7 witn

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television for eastern north carolina

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Located at 1300'

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COMPUTER TECHNOLOGY IN REPEATER INDEX

The day has arrived! The repeater index and distribution charts of this issue of the JOURNAL are on computor.

For several years, our Associate Membership Chairman, Lindsay Cleveland, W4IZI has kept membership of the CVRA on the computor. A couple of months ago, he suggested to ye editor the possibility of putting the repeater index on a computor. (I guess he felt sorry for me having to spend some 30 odd hours getting the index ready for the printer)

I agreed and he got the index programmed. A nifty runoff or printout was capable of being placed on the camera and reduced such that a photoprint could be made, and pasted directly into the page.

So we save typesetting of the charts, but by far, many, many hours of time. The computor can sort the new repeaters for us and we don't have to strip them into the existing chart. Changes to existing listings of repeaters require the editor to strike out the old, and write in the new. The rest is done by Lindsay and the computor.

This step alone will save the JOURNAL staff at least 40 hours per issue, correlating the changes, then stripping them in for the typesetter to set.

This Editor certainly appreciates the endeavor.

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calendar of coming events

The CVRA Journal will be glad to publish Events in your area taking place which are of interest to the entire area. Send information to CVRA Editor 1 month prior to Journal Publication date.

HAMFEST CALENDAR

(The following list was compiled with the gracious assistance of ARRL Roanoke Director, Phil Wicker, W4ACY. The list contains tentative dates for most hamfests. Those marked with an asterisk are confirmed dates.)

DECEMBER 1978
*2-3 . . . . . N.C. STATE QSO PARTY

JANUARY 1979
*14 . . . . . Frost Fest, RICHMOND, VA.

FEBRUARY 1979
*4 . . . Hillsville, Va.-Caro. Hamfest, ELKIN, N.C.
*18. . . . . Winter Fest, VIENNA, VA

MARCH 1979
17-18 . Blueridge ARS Hamfest, GREENVILLE
*24-25 Metroliner Hamfest, CHARLOTTE,N.C..

APRIL 1979
*22. . . . . RARS Hamfest, RALEIGH, N.C..
28-29. . . . . Hamvention, DAYTON, OHIO

MAY 1979
19-20 . . . . . DURHAM, N.C.

JUNE 1979
*16-17 . . . . . GASTONIA, N.C.
30-Jul. 1 . . . . . W.Va. State ARRL Conv.,

JULY 1979
*20-22. . . . . Nat'l. ARRL Conv., BATAAN ROUGE, LA.

AUGUST 1979
5 . . . . . WINCHESTER, VA.
18-19 . . . . . BRISTOL, TENN.

SEPTEMBER 1979
1-2 . . . . . SHELBY, N.C.
1-2. . . . . MORGANTOWN, W.VA.

OCTOBER 1979
7 . . . . . ROCK HILL, S.C.
*20-21 . . . . . NORFOLK, VA.

CLASSIFIED ADVERTISING

If you have equipment you would like to swap, sell, buy or trade you're invited to send us your want ads. Mail them to our Sales Manager listed on page 1 of the Journal. Ads are not limited to Amateur Radio items.

CLASSIFIED AD RATE: Non-Commercial or Commercial. $1.75 per ad in advance of Publication. (Max 30 words any one ad)

Ads must be submitted 30 days prior to publication. The CVRA assumes no responsibility as to the accuracy of description of equipment or its condition.

FOR SALE - Heathkit IT-1121 Curve Tracer, $75.00. IG-57A Post Marker Sweep Generator, $150.00. Write or Call Albert Clow, Route 2, Box 402, Gibsonville, N.C. 27249. (919) 621-3670.

SWAN OWNERS! Need replacement 8950 finals? 350 owners - convert to 8950's for 450 watt input! (See "Hints & Kinks" P.48) BRAND NEW G.E. TUBES - $5.00 ea. BI-COMM, Greensboro, N.C. (919) 292-8052.

FOR SALE - Clegg FM-27B2 Two Meter transceiver with mobile mount, ⅝-wave whip and coax cable. AC power supply for home use. Wally Bernath, K4UAS (919) 725-0176.

KENWOOD 7400's - Now stocking! VISTA regulated Power Supplies, 5-year Guarantee. 8,20,30 AMP. Continuous , In Stock! WILLIAMS RADIO SALES, Route 1, Box 806, Colfax, N.C. 27235.

USED GEAR BARGAINS! Collins KWM-2A & 516F-2, $1,010; Heath HW-101 & AC, $350; Swan 270, $310; HQ-110 Receiver, $125; Standard 2-M Hand held, 5 ch., charger, $225. Call BI-COMM, Greensboro, N.C. (919) 292-8052.

CRYSTALS for ICOM, REGENCY, CLEGG, MIDLAND, KENWOOD, DRAKE, WILSON, STANDARD, Most pairs and splits in stock. $7.00/pr. plus 25 cents shipping. WILLIAMS RADIO SALES, Route 1, Box 806, Colfax, N.C. 27235.

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COLLECTING "N's" . . .The CVRA is collecting "N's". We want to take them all and throw them away. Give us your "N" by joining your repeater with the CVRA. Contact the membership chairman on Page 2 of the JOURNAL. (We'll throw away your "N" listed in the index.)

FOR SALE . . .Ameco TX-62 two & six-meter transmitter, with matching VFO. $75.00. Phil W. Burton, WB4IEP, Rt. 1, Box 195, Castle Hayne, N.C. 28429. (919) 675-0609.

WANTED: Drake 2A or 2B receiver in good operating condition. Please write: "Ray", W4NI, 3600 Old Vineyard Road, Winston-Salem, N.C. 27104.

REPEATER for sale. The High Point 19-79 repeater equipment is for Sale. (Getting new machine) General Electric Master Pro in excellent condition. Write or call Dave Rawley, 1200 Chestnut Drive, High Point, N.C. 27260. (919) 882-1440.

FOR SALE . . . Swan 6-Meter Transceiver with H.B. Power Supply. Also Swan 400 with VFO and Mobile Power Supply. Contact Earl Wood, 120 Noble Ave. N.E., Roanoke, Va. 24012.

YAESU FT101EE and Speaker for Sale! Also Phone Patch. $600.00. Tempo VHF One Plus, $300.00. Astron 20-Amp. Power Supply, $60.00. This equipment bought new this past Summer and is like new. Yaesu used less than 2 hours. Tempo and Astron used about 30 hours. Call Clyde Wallace, WD4HEH, (803) 537-4554.

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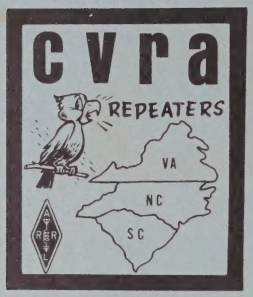

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